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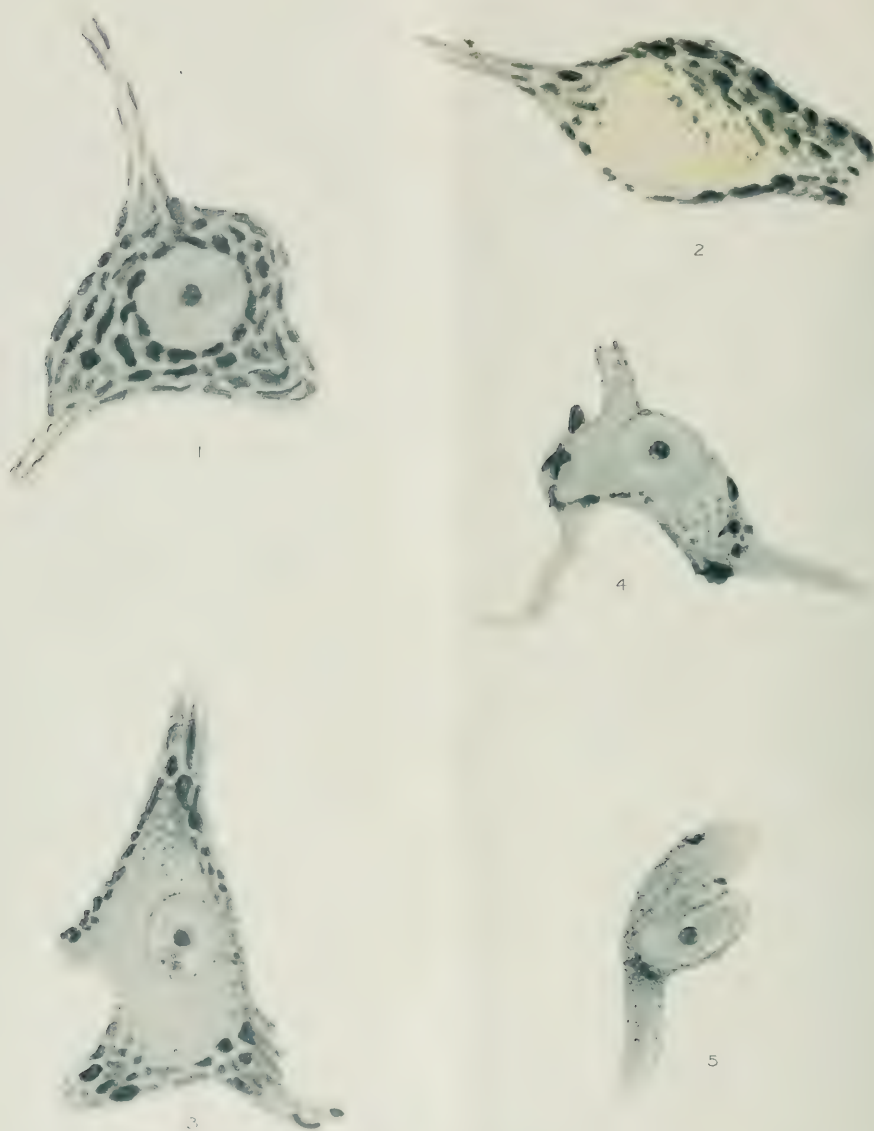
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## LIST OF ILLUSTRATIONS IN VOLUME LXIV.

Acute Ascending (Landry's) Paralysis.....	Plate facing
Acute Ascending (Landry's) Paralysis. Three Illus- trations.....	2, 3
Bacilli Tuberculosis.....	40
Temperature Charts.....	41
A Modified Vaginal Speculum.....	61
Hydrocephalic Idiocy. Seven Illustrations.....	106-108
Sarcoma of the Left Naris.....	111
A New Self-clamping Needle Holder.....	136
Apparatus for the Treatment of Pott's Disease. Eight- een Illustrations.....	141-147
The Incubator.....	148
Lymphomyxoma. Two Illustrations.....	183
Lymphomyeloma. Four Illustrations.....	183, 184
Malignant Pustule of the Face.....	213
X Rays in the Diagnosis of Fractures.....	213
An Elbow Splint.....	214
Seropurulent Maxillary Sinusitis. Two Illustrations.....	222
Treatment of Chronic Diseases of the Ankle and Tar- sus.....	256
A Hawkbill Nasal Scissors.....	338
Fibrosarcoma.....	350
Myxoma.....	351
Angioma.....	351
Fibroma.....	352
Faucial Tonsil.....	352
Adenoid Vegetation.....	352
A New Trachoma Forceps.....	369
Secondary Pharyngeal Tuberculosis.....	377
Primary Pharyngeal Tuberculosis.....	378
The Martin Bridge.....	381

The Sequelæ of Syphilis. Two Illustrations.....	382
Hopkins's Bridge.....	383
Tuberculous Infection of the Lymphoid Tissue of the Pharynx.....	Plate facing 409
An Aseptic Injector.....	434
Unusual Laryngeal Growth.....	444
Nasal Pin.....	452
Deviations of the Nasal Septum.....	452
Heat Waves and Glare. Diagram.....	485
An Eyelid Roller Forceps.....	500
Keloid Tumors of the External Ear. Three Illustrations.....	511, 512
Eosin-hamatoxylin.....	512
Gastrostomy according to Kader's Method. Four Illus- trations.....	605-607
Alcoholic Intoxication in a Young Child. Two Illus- trations.....	608, 609
Twin Strabismus Hooks.....	618
Method of Teaching Obstetrics. Eight Illustrations.....	634-639
Aids in Obstetric Teaching. Twenty-nine Illustrations.....	665-672
A Shade for the Welsbach Light.....	694
Aids in Obstetric Teaching. Twenty-two Illustrations.....	701-707
Aids in Obstetric Teaching. Twenty-four Groups of Figures.....	Facing 733
Aids in Obstetric Teaching. Twelve Illustrations.....	733-736
A Device for heating and keeping Hot Solutions for Spraying the Nose and Throat.....	760
Apparatus for Venous Transfusion. Two Illustrations.....	773
A Modified Nasal Snare.....	790





DR PEARCE BAILEY'S AND

DR. JAMES EWING'S ARTICLE ON ACUTE ASCENDING (LANDRY'S) PARALYSIS

Fig. I.—Normal human ganglion cell of the anterior horn of the spinal cord.

Fig. II.—Increase of pigment in the senile ganglion cell.

Figs. III, IV, and V.—Degenerative changes in the ganglion cell

## Original Communications.

### A CONTRIBUTION TO THE STUDY OF ACUTE ASCENDING (LANDRY'S) PARALYSIS.\*

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ALTHOUGH it is nearly forty years since the French physician Landry described the disease which bears his name, and although since that time a considerable number of cases of this disease have been reported in different parts of the world, there are to-day many conflicting views of the pathology of Landry's paralysis.

The symptoms of the original case were an acute paralysis, ascending from the legs to the arms, and soon involving the bulbar muscles. The paralysis was unaccompanied by marked loss of sensation, nor did it involve the sphincters. The paralyzed muscles retained their faradaic excitability; the intellectual faculties remained unimpaired and fever was not prominent.

But after death no lesions were found in the nervous system to explain these rapidly fatal symptoms. Although the nerves were not examined, the results of a careful microscopic investigation of the spinal cord by several observers were absolutely negative.

Since that time some cases have occurred which were identical, both clinically and pathologically, with the original, and others have been reported in which more or less serious pathological alterations were found in the nervous system.

A study of the literature of this subject, together with the recent examination of a case of acute ascending paralysis in which the clinical symptoms were in exact agreement with Landry's description, but in which extensive lesions were found in the spinal cord, has led us to certain conclusions which are at variance with some recent conceptions of the pathology of the disease.

The object of the present paper is therefore twofold:

I. The description of a case of acute ascending paralysis, with special reference to its anatomical lesions.

II. A consideration of the cases of Landry's paralysis hitherto recorded, with a view of determining the pathological nature of the disease.

I.—The patient, M. S., a woman, aged thirty-six, housewife, born in Ireland, was admitted to Roosevelt Hospital November 25, 1895, during the service of Dr. Delafield, to whose courtesy we are indebted for the following history:

Family history negative. Personal history: Consid-

erable beer habit; never had articular rheumatism; denies all symptoms of syphilis and shows no evidences of this disease; has always been healthy. Present illness began on November 19th with an attack of vomiting without apparent cause, although she acknowledges a moderate but not unusual indulgence in beer on the previous day. Vomiting continued, till on the third day (November 22d) she went to bed exhausted. At this time she began to have occasional attacks of vertigo and dimness of vision, and on attempting to rise from bed fell to the floor in syncope. On November 23d she rather suddenly lost power in both legs, and on November 24th there was paralysis of the left arm with paresis of the right arm. Sensation was undisturbed.

*Condition on Admission.*—Color and nutrition good; tongue dry, slightly coated; pulse, 100, regular, tension normal; temperature, 101.4°; respiration, 28, regular; urine, acid, specific gravity, 1.030; no albumin; no sugar; a few hyaline casts. Physical examination of thoracic and abdominal viscera negative.

*Nervous System.*—Motion: Complete inability to move either legs or left arm; can flex toes of both feet perceptibly; retains slight power to move right arm. There is moderate left ptosis.

Sensation: Tactile sensibility normal; states accurately when and how legs are moved; no pain or tenderness in arms or legs.

Bladder and rectum: Control normal. Reflexes: Lost.

Electricity: Strong faradaic current elicited a diminished response in paralyzed muscles (November 28th).

November 26th.—Vomited repeatedly; sleepless.

27th.—Complained of headache and dyspnea.

29th.—Urine, fifteen ounces; contains a trace of albumin; no casts. Dyspnea increased rapidly. Dysphagia noted in the morning, which later became complete. Dysphonia marked and increasing. In the evening the patient became unconscious, and at 8.45 p. m., with severe dyspnea, cyanosis, and pulmonary oedema, she died.

*Autopsy* (Dr. Ewing).—November 30th, twenty hours after death. Body fat, pale; no oedema or noteworthy external markings.

Serous cavities: Normal. A few old adhesions over left lung.

Lungs: Moderately congested, decidedly oedematous; bronchi slightly reddened and coated with frothy mucus; bronchial lymph nodes normal.

Heart: Size, surfaces, chambers, and valves normal; muscle rather pale; aorta presents a very few atheromatous patches.

Liver: Moderately enlarged; consistence much reduced; surface and section smooth; centres of lobules deep red, not depressed; peripheries light-colored and fatty, but general outlines of lobules indistinct.

Spleen: Decidedly enlarged, rather firm, section deep red, trabeculae faintly visible; Malpighian bodies indistinct.

Kidneys: Moderately enlarged, soft; capsule not adherent; surface smooth; stellate veins congested; cortex slightly thickened and congested; markings regular; pyramids much congested.

Gastro-intestinal tract: Adrenals, ureters, and pancreas apparently normal (Peyer's patches not enlarged).

Muscles: Not examined.

Brain: Considerable distention of veins and sinuses of brain and dura. No thrombi. Pia and cortex rather

\* Read before the New York Neurological Society, March 3, 1896.



succulent. Sections through cortex, capsules, basal ganglia, medulla, and pons disclosed a large but not distinctly abnormal blood content; no gross lesions.

**Spinal cord:** There was the usual filling of the dorsal veins. Pia normal. Consistence of cord normal. On section, the white matter throughout seemed entirely normal. The gray matter appeared plainly outlined and the vessels slightly congested, but these features were not more prominent than is frequently found in normal cords. At one point in the gray matter of the cervical cord a minute red spot was found which could not be displaced, indicating the presence of extravascular blood.

**Anatomical Diagnosis.**—Congestion and cedema of the lungs; acute degeneration of liver and kidneys; acute hyperplastic splenitis.

**Diagnosis of the condition of the nervous system reserved for microscopical examination.**

The brain and cord were placed in Lang's fluid\* for forty-eight hours, the basal ganglia having been separated by Meynert's method, and the cord having been divided by transverse incisions at short intervals. The specimens were then washed in water and treated with successive alcohols of increasing strengths, tinged with iodine to remove all trace of sublimate, and finally mounted in celloidin and sectioned.

The stains employed were the eosin hæmatoxylin, Van Gieson's picro-acid fuchsine, Loeffler's alkaline methylene blue, Ehrlich's tri-acid mixture, Gram's and Nissl's.

The Nissl stain furnished the most satisfactory results and was the one chiefly employed. This stain is to be most highly recommended for the study of changes in the ganglion cells. Not only is its application simple, but it demonstrates better than any other method the minute structure of the cell.

After Nissl's method, the sections were gently heated in a one-per-cent. aqueous solution of methylene blue over a small Bunsen burner. They were then washed in water, decolorized, and at the same time dehydrated in strong alcohol (absolute is preferable), cleared in oil of organum, and mounted in balsam.

**Microscopical Examination.**—*Cauda equina:* The vessels of the cauda equina were filled with blood, but there was no thickening of their walls or infiltration of the circumvascular sheaths. The axis cylinders of the nerve fibres appeared normal, and there was no increase of the connective-tissue nuclei.

**Nerve roots:** The nerve fibres, so far as could be determined by the methods used, were normal. There was no increase of the nuclei of the neuroglia cells. In some of the nerve roots there was a slight circumvascular infiltration of small round cells.

**Pia mater:** There was some round-cell infiltration in the meshes of the spinal pia, especially about the vessels.

Peripheral nerve trunks were not examined.

**Spinal cord—gray matter:** The gray matter was extensively affected throughout the entire length of the cord, being much more involved in some areas than in others. The lesion consisted in intense congestion of all the blood-vessels, especially of the ramifications of the central branch of the anterior spinal artery. In the cervical region there were several capillary hæmorrhages, and some of the arterial twigs contained thrombi com-

posed of multinuclear leucocytes. Nearly all the vessels showed a pronounced circumvascular infiltration with small round cells (Fig. 1). In some places this infiltra-

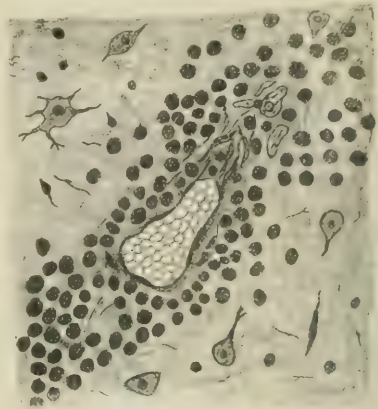


FIG. 1.—Circumvascular infiltration of small round cells. Ven. of anterior horn.

tion had extended beyond the circumvascular sheath, and the small cells were gathered in such numbers as to form what may be properly regarded as milary abscesses. Furthermore, there was a diffuse cellular infiltration in the gray matter, which sometimes extended slightly into the white matter. At some levels congestion and exudation were so intense that nothing could be distinguished but the round-cell infiltration and the detritus of neuroglia and ganglion cells. Where the process had extended into the white matter, as was observed in the cervical region only, the fibres were absent and their places occupied in part by large mononuclear cells, with homogeneous or granular protoplasm.

The central canal appeared not specially affected.

Before detailing the degenerative processes in the ganglion cells, it may be well to briefly describe a normal human ganglion cell of the anterior horn as it appears when stained by Nissl's method (Fig. 1, Plate). The cell body under these conditions contains a number of chromophilic masses, larger and grouped concentrically about the nucleus, arranged in rows along the cell borders, and prolonged as slender rods into the dendrites. These bodies are not found in the axis-cylinder process.

The significance of these chromophilic bodies is not known, but they are believed to be a characteristic and normal element of the ganglion cell. Besides these bodies smaller granules are scattered through the cytoplasm, giving the appearance of a fine network. Some areas of diffuse, structureless, greenish pigment are often encountered in normal ganglion cells of the adult, a feature which is much more conspicuous in old age (Fig. 2, Plate). By this method of staining the nuclear membrane is distinct, and is separated from the deeply staining nucleolus by a clear area in which may occasionally be made out a fine granular network.

\* Distilled water, 2,000; chloride of sodium, 120; acetic acid, 120; bichloride of mercury, 60.

The abnormalities in the ganglion cells observed in the present case consisted principally in the partial or complete absence of the chromophilic masses (Figs. 3 and 4, Plate). In cells in which the lesion was least marked the absence of chromophilic bodies was noted only in the central portions of the cells. Other cells were seen in which the cytoplasm was entirely bereft of chromophilic bodies and their places were occupied by a multitude of fine, rather deeply staining granules, which gave to the cell body a very peculiar "dusty" appearance. Further, in many cells even the finer bluish particles were absent, and in these cells especially, less often in the others, the nuclear membrane was indistinct, irregular, or granular, and the nucleolus fragmented or absent (Fig. 5, Plate).

Finally, in the areas where evidences of exudative inflammation were most pronounced, many shrunken and irregular cell bodies and collections of deformed chromophilic bodies without visible cell nuclei were with difficulty to be recognized.

The fragmentation of cell processes, as observed by Oettinger and Marinesco, was occasionally encountered, but in such situations as to render its pathological significance uncertain.

While not insisting that our interpretation is entirely correct, we believe that the real chronological order of these degenerative changes in the ganglion cells has been indicated by the sequence of the above description.

*White matter:* Besides the few areas where the inflammatory process in the gray matter had extended into it, the only lesion of the white matter was a moderate circumvascular infiltration of the blood-vessels.

*The Topographical Distribution of the Lesion in the Cord.*—In the cervical region the lesion was most pronounced, and in many sections not a single ganglion cell had escaped extreme alteration or complete destruction.

In the lumbar and dorsal regions (Fig. 2) the changes

anterior horns remained in a fair condition of preservation.

The changes in the gray matter throughout the entire cord were but slightly marked in the posterior horns.

In the cervical region only, as before mentioned, some fibres of the white columns had suffered destruction by an extension of the inflammatory process from the gray matter.

The nerve roots in the upper dorsal and cervical segments showed considerable circumvascular infiltration, but their fibres were well preserved. Although the peripheral nerves were not examined, it is reasonable to suppose that any lesion which may have existed in them was secondary to the intense inflammation of the spinal cord.

*Medulla and brain:* The lesions in the medulla and pons were chiefly marked in the gray matter along the floor of the fourth ventricle and in that of the pons, although the white matter and periphery were not entirely uninvolved. The changes were similar to those described in the cord. The nuclei of all the cranial nerves were more or less damaged, those least affected being the sixth and seventh. The changes in the nuclei of the third nerves were chiefly in the ganglion cells which lie internally. The nucleus funiculi teres was but little affected. The basal ganglia showed the circumvascular lesions and numerous small foci of cellular infiltration. The internal capsule was intact, but the motor cortex presented the same small collections of round cells, and ganglion cells in the milder stages of degeneration. The temporo-sphenoidal lobes were normal. The marked lesions of the medulla extended slightly into the middle peduncles and the lateral lobes of the cerebellum.

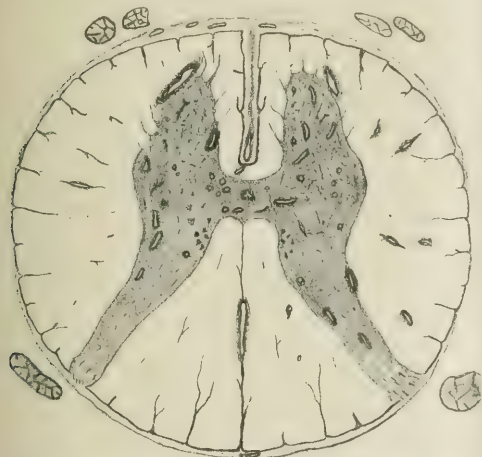


FIG. 2.—Section of spinal cord dorsal region. Ganglion cells of Clarke's column only preserved.

were extensive, but the cells of Clarke's column were only slightly affected, and offered a sharp contrast to the intensely inflamed anterior horns.

In the sacral region and conus medullaris the lesions were least pronounced, and many ganglion cells in the

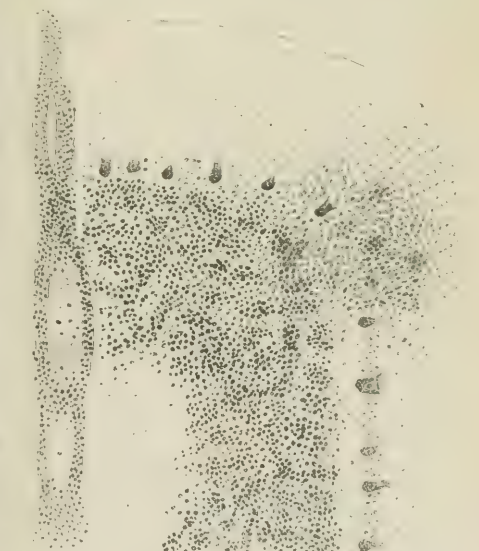


FIG. 3.—Lesion in cerebellum.

Throughout the cerebellar cortex (Fig. 3) were found lesions similar to those seen in the spinal cord. The layer of Purkinje's cells was in many of the convolutions dis-

placed outward from the nuclear layer, and in adjoining inflammatory foci some of these cells were absent.

No bacteriological examination was made either by culture or by animal inoculation.

Sections from various levels were stained by Loeffler's alkaline methylene blue and by Gram's method, but no bacteria were found.

*Summary.*—The foregoing case furnishes an exact clinical counterpart of the one originally reported by Landry, and presents symptoms regarded by subsequent authorities as essential in this disease—viz., an acute ascending paralysis, causing death by invasion of the bulbar nuclei, without marked sensory impairment, without involvement of the bladder or rectum, and with retained faradaic excitability of the muscles.

But, in contrast to his case and to a few subsequent well-authenticated examples of this disease, in the present instance the clinical symptoms are attributable to most extensive lesions, involving the whole cerebro-spinal axis, affecting chiefly the gray matter of the brain and medulla and the anterior horns of the spinal cord.

The character of the lesion was that of an acute exudative inflammation, with marked cellular infiltration of the circumvascular sheaths, degeneration of the ganglion cells, and obliteration of other structural elements.

That these lesions are but slightly marked in the sacral region will explain the integrity of the sphincters, and the fairly normal condition of the posterior horns, the sensory tracts, and the nerve roots accords with the absence of sensory symptoms.

## II. CONSIDERATION OF THE PATHOLOGY OF ACUTE ASCENDING PARALYSIS.

The literature which has grouped itself around the association of symptoms known as Landry's, or acute ascending paralysis, is considerable. Many cases have been assigned to this category which manifestly belong to simple polyneuritis; still others have been described which were nothing more than the ordinary disseminated or transverse myelitis. Some cases of general myelitis of rapidly ascending type seem partially to resemble the disease under discussion, and it is at present impossible to state whether or not they should properly be classed as Landry's paralysis. Such a case of ascending myelitis, of seven weeks' duration, which proved fatal, with evidences of involvement of the bulbar nuclei, has been reported by Schultz and Schultze (*Arch. f. Psych.*, 1881, xii, p. 457).

Two papers appeared in 1889 (Nauwerck and Barth, Ziegler's *Beiträge*, 1889, v, p. 1; Ross, *A Treatise on Peripheral Neuritis*, London, 1893, p. 16) which essayed to prove that the disease was essentially a neuritis. But, in support of this view, cases were included whether accompanied or not with satisfactory pathological reports. Such a view of the pathology of Landry's paralysis was not satisfactory to Hun, who, in a paper two years later, concluded that "acute ascending paralysis, defined so

as to exclude all cases in which the sensory symptoms are prominent, or in which marked bulbar symptoms are not present, must be regarded as a clinical entity for which no corresponding lesion has as yet been discovered." This view of Hun's is indorsed by Osler (*Practice of Medicine*, New York, 1895).

After a careful review of all the literature relative to this disease, we have been forced to the conclusion that this opinion will now admit of some modification, as we have found many well-recorded instances of the disease in which the ascending paralysis, unaccompanied by marked sensory symptoms, soon involved the bulbar nuclei, and in which adequate pathological changes were found in the nervous system. For the purpose of classification, we have arranged a table of cases of acute ascending paralysis which have run a fatal course.

Believing that satisfactory conclusions can be drawn only from those cases in which the report was clear on the essential clinical symptoms, and in which a microscopic examination of the nervous system had been made, only a small proportion of the cases reported as Landry's disease have been included in our tables. A few cases have been disregarded on account of clinical deficiencies, many because of the lack of proper pathological examination. The futility of considering cases in which the nervous system was not carefully examined microscopically will be evident to all who are familiar with the technical problems of nervous pathology. We may cite as an example our own case, in which with extensive lesions the spinal cord presented no changes which the naked eye could detect.

If, however, we are to enlarge the conception of Landry's paralysis, as suggested by Nauwerck and Barth, so as to include cases in which sensation was decidedly affected or completely lost, and in which the disease was distinctly subacute or chronic, with intervals of improvement, the doors are thrown open to a multitude of cases of neuritis, and Landry's paralysis becomes a disease of frequent occurrence and heterogeneous character.

An ascending paralysis which pursues a rapidly fatal course without prominent sensory symptoms is a clinical entity too distinct to warrant, without more definite reasons, such a widening of the conception of this disease. And while the strict adherence to a distinct clinical type may exclude cases in which, although the symptoms are not identical, the morbid process is essentially the same, the present lack of knowledge as to what Landry's paralysis really is renders such conservatism imperative.

The accompanying tables contain, therefore, all the reported cases of Landry's paralysis in which, in our judgment, the results of satisfactory clinical and pathological examination have been given. The references to the whole literature, from which the cases have been selected, may be found in the papers of Nauwerck and Barth and of Ross, and in reports which have appeared subsequently and up to the present time.



We have been unable to study cases published only in the Russian or Scandinavian languages or to obtain certain old monographs. With these exceptions, we believe that our review of the literature has been complete.

A detail of all the cases reviewed would render this paper unnecessarily cumbersome; we have appended, however, a list of some of the more important cases which do not appear in the tables, although a microscopic examination was made.\*

In addition, we have included several cases which have hitherto been spoken of, not as Landry's, or acute ascending paralysis, but as acute anterior poliomyelitis. The close clinical adherence of these cases to Landry's description will readily be seen, and their right to be

classed as examples of Landry's paralysis must be admitted. It may be stated also that with few exceptions all the cases given in the tables have been studied from the original papers.

For purposes of classification and comparison, the cases quoted have been divided into three groups:

Group I contains cases in which the result of microscopical examination was negative.

Group II contains cases in which lesions were found—(a) of cord alone, (b) of nerves alone, (c) of cord and nerves.

Group III contains cases which correspond clinically to the type of Landry's paralysis, but which have hitherto been classed as anterior poliomyelitis.

*Tables compiled from All the Cases found in the Literature of which the Symptoms were those of Landry's Paralysis, and in which Microscopical Examination of the Nervous System was Made.*

GROUP I.—Cases in which no Lesions were found on Microscopical Examination.

References.	Sex, age, duration.	Ætiology.	Paralysis.	Sensation.	Sphincters.	Reflexes.	Electricity.	Pulse and temperature.	Autopsy.
Landry, <i>Gaz. heb.</i> , 1859, t. vi, p. 472.	Male; 43 years; 8 days.	Imperfect recovery from several febrile attacks, with pain in side.	Increasing paralysis successively of legs, arm, trunk, tongue. Death from asphyxia.	Numbness, tingling in fingers and toes for 6 wks. previous; pain not mentioned; anæsthesia of soles of feet and fingers; diminished sensation elsewhere in extremities; muscular sense intact; special senses normal.	Bladder normal.	Lost.	Normal reaction to faradism.	P. 90. Slight fever.	No lesion in brain or cord; nerves not examined.

\* The following cases do not appear in the tables because the clinical history was deficient, or the symptoms and course of the disease were not characteristic, or the pathological report was not complete:

Bernhardt. *Zeit. f. klin. Med.*, 1886, p. 363. Course of disease irregular. Sensation much affected.

Brochain. *Gaz. des. hôp.*, 1854, p. 93. Anæsthesia.

Bourdillat. *Gaz. des hôp.*, 1868, p. 5. Clinical history incomplete.

Buck. *Lancet*, 1895, ii, p. 12. Pathological report incomplete.

Cornil and Lepine. *Soc. de biol.*, 1873, p. 206. Anæsthesia of feet and legs. General myelitis.

Dejerine. *Compt. rend.*, 1878, v, p. 87, No. 3. No clinical histories.

Diller and Meyer. *Am. Jour. of the Med. Sci.*, 1896, p. 404. Prolonged atypical course.

Eichhorst. *Virchow's Arch.*, 1876, p. 69. Chronic course.

Fox. *Brain*, 1880, ii, p. 418. Unsatisfactory pathological examination.

Gombault. *Arch. de phys.*, 1873, v, p. 80. Duration, five months and a half.

Harley and Clarke. *Lancet*, 1868, ii, p. 451. Specimens examined in fresh condition only.

Klebs. *Deut. med. Woch.*, 1891, xvii, No. 3. No clinical history.

Kussmaul. Reference in Ross. History incomplete. Anæsthesia.

Leudet. *Arch. gén.*, 1865, vi, p. 525. Unsatisfactory pathological report.

Leyden. *Allg. Zeit. f. Psych.*, 1875, p. 537. Two cases. Not typical clinically; lesions in medulla.

Leyden. *Zeit. f. klin. Med.*, 1880, p. 413. Three years' duration.

Lunz and Manurowski. *Abst. Neur. Ctrbl.*, 1890, ix, p. 696. Clinical history of ordinary alcoholic neuritis.

Nauwerck and Barth. *Loc. cit.* Duration, three months.

Oulmont and Hayem. *Gaz. des hôp.*, 1867, p. 405. Subacute course. Sensory involvement from the first.

Pitres and Vaillard. *Arch. de phys.*, 1867, ii, p. 150. Anæsthesia.

Pribytkow. *Revue neurol.*, 1893, p. 672. Total loss of sensibility.

Ross. *Dis. of the Nerv. Sys.*, second edition, vol. i, p. 905. History and pathological report unsatisfactory.

Ross. *Loc. cit.* History incomplete

Roth. *Correspbl. f. s. Aert.*, 1883, No. 13. Paralysis not ascending.

Schultz and Schultze. *Arch. f. Psych.*, 1882, xii, p. 458. Irregular course. Myelitis.

Strumpell. *Arch. f. Psych.*, 1883, xiv, p. 339. Chronic course.

Suydekine. *Ctrbl. f. klin. Med.*, 1887. Not typical clinically.

Van den Velden. *D. Arch. f. klin. Med.*, 1887, xiv, p. 333. Spastic paralysis.

Vierordt. *Arch. f. Psych.*, 1883, xiv, p. 678. Chronic course.

Westphal. *Arch. f. Psych.*, 1875, vi, p. 765. Case III: Symptoms of neuritis. Nerves not examined. Case IV: Chronic course.

Williamson. *Med. Chron.*, 1890, xii, p. 454. Clinical history indefinite.

Wood and Dercum. *Ther. Gaz.* (Detroit), 1885, p. 157. Case not typical clinically.

References.	Sex, age, duration.	Etiology.	Paralysis.	Sensation.	Spine-tere.	Re-flexes.	Elec-tricity.	Pulse and temperature.	Autopsy.
Pellegrino Levi, <i>Arch. Arch. gene.</i> Male; 22 years; 1865, vi, 12 days. 1, p. 132.	Male; 22 years; 1865, vi, 12 days. 1, p. 132.	None.	Paresis, followed in 5 days by complete paralysis of legs; later, paresis in arms, dysphagia, asphyxia.	Numbness and tingling in fingers and toes; sensibility to pain and touch preserved; movements caused great pain.	Not mentioned.	Lost.	Not mentioned.	P., 90 to 94. T., not mentioned.	Nerve roots, spinal ganglia, vagi, and spinal cord pronounced normal by Cornil.
Bernhardt, <i>Berl. klin. Woch.</i> Male; 30 years; 1871, p. 561.	Male; 30 years; 9 days.	Small-pox.	Paresis of legs, later of arms; later paralysis of legs; dysphonia, dysphagia, asphyxia.	Numbness and loss of muscular sense; sensibility to cold and heat retained; pains in joints.	Normal.	Normal.	Normal.	P., 132. T., 99°.	Basal ganglia, medulla, cord, vagi, sciatic, sympathetic normal; acute hyperplastic splenitis.
Westphal, <i>Arch. fur Psych.</i> Male; adult; 1875, v, p. 28 days. 765.	Male; adult; 28 days.	Phthisis.	Gradual paresis and almost complete paralysis of legs and arms; dysphagia, dysphonia, asphyxia; right pupil parietic.	Moderately diminished; muscular sense and sensibility to heat and cold intact.	Not mentioned.	Slightly diminished.	Normal.	P., 94. T., 103°.	Cord, medulla, and nerve roots normal; acute hyperplastic splenitis.
Westphal, <i>loc. cit.</i> Male; 32 years; 1875, v, p. 28 days.	Male; 32 years; 28 days.	Five weeks' diphtheria.	Paresis, later paralysis of legs and arms; dysphagia, asphyxia.	Much diminished; muscular sense diminished; no pain.	Not mentioned.	Knee-jerks lost.	Normal.	P., 108. T., 100°.	Brain, cord, cranial nuclei, nerve roots, ganglia, and muscles normal; acute hyperplastic splenitis.
Kahler and Pick, <i>Arch. fur Psych.</i> Female; 12 years; 1880, 11 days. x, p. 313.	Female; 12 years; 11 days.	None.	Paresis, later paralysis of legs and arms; dyspnea, dysphagia, asphyxia.	Feet anesthetic; temperature sense delayed.	Not mentioned.	Lost.	Diminished reaction to galvanism.	P., 120. T., 101°.	Acute hyperplastic splenitis; cord normal; adhesions between spinal dura and pia; nerves not mentioned.
Kuemmel, <i>Zeit. f. klin. Med.</i> Male; 25 years; 1881, ii, p. 6 days. 273.	Male; 25 years; 6 days.	Fourth week of typhoid fever.	Paresis of arms and legs; paralysis of legs; total paralysis of all extremities; speech thick; double facial paralysis; dysphagia, dyspnea, asphyxia.	Normal.	Not mentioned.	Normal.	Normal.	P., 80 to 150. T., normal.	Bilateral hemorrhage of medulla (immediately ante mortem?); cord normal; nerves not mentioned.
Strumpell, <i>Arch. fur Psych.</i> Male; 22 years; 1883, xiv, p. 15 days. 353.	Male; 22 years; 15 days.	None.	Legs, arms; cyanosis, asphyxia.	Pain and tenderness; sensibility normal.	Normal.	Lost.	Not given.	P., 140 at end. T., 103°.	Cord normal; nerves not examined.
Mann, <i>Med. Chron.</i> Male; 1887, 49 years; vi, p. 99.	Male; 49 years; 9 days.	None.	Legs, arms; dysphagia.	Numbness.	Normal.	Lost.	Retained.	Normal.	Spleen normal; cord, medulla, and brain normal; nerves not examined.
Greppin, <i>Cor. respblat. schweiz. Aerz.</i> Female; 29 years; 1892, p. 517.	Female; 29 years; 19 days.	Patient insane.	Paralysis of one leg; then of the other; then of one arm, then of the other arm; asphyxia.	Not given.	Retention of urine.	Not tested.	Not given.	No fever.	Brain, cord, peripheral nerves, spinal ganglia, and nerve roots found healthy.
Ormerod, <i>St. Bartholomew's Hosp. Rep.</i> Male; 20 years; 1892, xxxiii, p. 137.	Male; 20 years; 8 days.	Onset after prolonged swimming.	Paralysis first of legs, then of arms, then of respiration; paralysis of left facial, orbicularis palpebrarum of both sides, and of orbicularis oris; uvula deflected; asphyxia.	Normal.	Normal.	Absent.	Normal.	Normal; pulse not given.	Spleen large, soft; sciatic and vagus normal, stained by Weigert; picrocarmin, aniline blue black; spinal cord, medulla, and cortex normal.
Ormerod, <i>loc. cit.</i> Male; 40 years; 17 days.	Male; 40 years; 17 days.	Alcoholic. Influenza?	Paraplegia and atrophy; paralysis of left arm, less in right; asphyxia.	No pain, but muscles tender on pressure; difficulty in sensation impaired in both legs, less affected in arms.	Constipation; no urine; micturition.	Re-flexes absent in arms; knee-jerk not tested.	Normal.	T., 98° to 101°.	Nerves and cord stained with osmic acid. Pal. picrocarmin; all normal except in one vagus (Müller's fluid), in which "Elbow did not take" Weigert well, and stained too deeply in carmin.
Ormerod, <i>loc. cit.</i> Male; 33 years; 16 days.	Male; 33 years; 16 days.	Alcoholic?	Paraplegia, dysphagia.	Impaired in legs and arms; pain in back; girdle sensation.	Incontinence of urine; constipation.	Absent.	Not used.	T., 99° to 102°.	Spleen large, soft; cord (Müller's fluid) aniline blue black, normal; anterior tibial nerve (Müller's fluid) and cauda equina osmic acid both normal.
Watson, <i>Brit. Med. Jour.</i> Male; 52 years; 1892, ii, p. 1286.	Male; 52 years; 8 days.	After lying on damp ground.	Paraplegia ascending and ending in respiratory paralysis; dysphonia, dysphagia, asphyxia.	No pain or anæsthesia.	No incontinence.	Absent.	Not mentioned.	Not given.	Histology (no details) of cord negative; nerves not mentioned.

References.	Sex, age, duration.	Etiology.	Paralysis.	Sensation.	Spincters.	Reflexes.	Electricity.	Pulse and temperature.	Autopsy.
Albu, <i>Zeit. f. klin. Med.</i> , 1893, xxiii, p. 387.	Male; 46 years; about 2 weeks.	None.	First paraplegia, then paralysis of arms; dysphagia, dysphagia, asphyxia.	Normal. "Intense tenderness of whole body," most marked in neck.	Normal.	Absent.	Not tried.	Normal; excessive sweating.	Nerves, cord, and spleen normal; bacteriological examination of cord, nerves, and blood (sowed on agar) negative.
Leube, <i>Special Diagnose der Krankheiten</i> , Leipzig, 1893, p. 142.	Female; 26 years; 8 days.	None.	Paralysis of legs and arms; dyspnoea, tachycardia, dysphagia, double facial paralysis; lagophthalmos.	Absolutely intact; pain in back.	Paralyzed at close of illness.	Lost.	Normal.	No fever. P., 150.	Absolutely negative (all specimens in Müller's fluid).

GROUP II (a).—Cases in which Lesions were found in the Spinal Cord.

Eisenlohr, <i>Virchow's Arch.</i> , 1878, lxxiii, p. 73.	Male; 42 years; 9 days.	Not stated.	Paresis simultaneous of arms and legs; dysphagia, dysphonia, asphyxia.	Nearly normal.	Normal.	Lost.	Normal.	P., 136. T., 98°.	In pons and medulla small foci of round cells about vessels and in tissues; ganglion cells "shining" and "swollen"; capillary hemorrhages; central canal and vicinity infiltrated with round cells; peripheral nerves normal; spleen, acute hyperplastic splenitis.
Ross, <i>Dis. of Nerv. Sys.</i> , 1883, i, p. 905.	Female; 21 years; 5 days.	Syphilitic.	Paralysis of legs; paresis of arms; later paralysis of all extremities; dyspnoea, asphyxia.	Not materially affected.	Not mentioned.	Not mentioned.	Not mentioned.	Not mentioned.	Disappearance of some ganglion cells; increase of nuclei; dilatation and congestion of blood-vessels.
Roussel, <i>Arch. de med. nav.</i> , 1883, xxxix, p. 370.	Male; 39 years; 6 days.	None.	Arms, legs; dysphagia, dysphonia, asphyxia.	Diminished; numbness and tingling.	Normal.	Not given.	Not given.	Normal.	Vascular lesions in cord; degeneration of ganglion cells; nerves not examined.
Hoffmann, <i>Arch. f. Psych.</i> , 1884, xv, p. 140.	Female; 36 years; 14 days.	Not mentioned.	Paresis of legs, then of arms; dysphonia, dysphagia, asphyxia; right ptosis; no atrophy.	Formication, but no pain or anesthesia; tinnitus aurium.	Retention of urine at the end.	Plantar reflex normal; knee-jerk lost.	Faradaic reaction diminished in right facial only.	Not mentioned.	Round cells along vessels of meninges and some vessels in "nerve substance," from dorsal cord to upper medulla; more marked in cord; ganglion cells "shining" and "swollen" and nuclei often obscure; small capillary hemorrhages in cervical and dorsal cord; nerve roots negative.
Immerman, <i>Nerv. Centr. u. periph.</i> , 1885, iv, p. 304.	Male; 22 years; 4 weeks.	None.	Ascending paralysis of lower and upper extremities; bulbar symptoms later; asphyxia.	Normal.	Paralytic.	Lost.	Normal.	Moderate fever.	Cellular infiltration of walls of vessels; disappearance of ganglion cells; lesion limited to anterior horns of gray matter of entire cord; peripheral nerves and muscles normal.
Curschmann, 1886, <i>Verh. der V. Cong. in Med.</i> , p. 473.	Male; 36 years; 9 days.	Typhoid fever.	Paresis, later paralysis of legs; paresis of arms, later bulbar signs; slight return of motion in legs day before death.	Tenderness along spine; no other points mentioned.	Normal.	Lost.	"Unsuccessful."	P., 140. T., 104°.	No report on changes in cord except that in white substance were round masses of bacilli which, cultivated and inoculated in rabbits, "proved positively their typhoid nature."
Ketli, <i>Wien. med. Blatt.</i> , 1887, x, p. 250.	Male; 30 years; 4 days.	None.	Legs, arms, respiratory muscles.	Unaffected.	Normal.	Diminished.	Normal.	Presumably normal.	The changes in the spinal cord were those of acute anterior poliomyelitis; no other details.
Iwanow, <i>St. Petersburg. med. Woch.</i> , 1888, v, p. 393 (2 cases).	Age and sex not stated; 8 and 11 days.	None.	Ascending.	Slightly affected in one case only; no pain.	Normal.	One case, not stated; one case, right knee-jerk lost.	Not used.	Pulse not stated; no fever.	Similar changes in both cases; many foci of small round cells regularly arranged along vessels of gray matter or grouped between ganglion cells; destruction of ganglion cells; fibrinlike exudate around vessels; nerves not examined; no bacteria seen by Gram's stain.
Hlava, <i>Ref. in Schmidt's Jahrbuch</i> , 1891, 232, p. 244.	Female; 36 years; 4 days.	None.	Sudden loss of power in arms and legs.	Not stated.	Not stated.	Not stated.	Not stated.	Fever.	No gross changes of lumbar cord and corpora quadrigemina; small-celled infiltration, especially in anterior and posterior horns and Clarke's columns; white matter normal; vessels everywhere dilated; cranial nuclei (xii, xi, x) involved; in ulnar and sciatic nerves were found mast cells in the nerve sheaths, but no degeneration.



References.	Sex, age, duration.	Etiology.	Paralysis.	Sensation.	Sphincters.	Reflexes.	Elec- tricity.	Pulse and tem- perature.	Autopsy.
Oettinger and Marinisco, <i>San. ital.</i> , 1895, No. 6.	Male; 20 years; 3 days.	During variola.	Paralysis ascending to arms; asphyxia.	Diminution of all forms of sensation.	Reten- tion of urine.	Lost.	Not stated.	T. that of vari- ola.	Dorso-lumbar cord soft; capillary hemorrhages; nerves of lower limbs normal; changes in cord follow vascular distribution; vessel walls thick and filled with leucocytes containing basophilic granules; thrombi in some vessels; coeal band in ganglion cells rarely, and in circumvascular spaces and leucocytes frequently; coeal also in central canal; no cultures; nerve cells show degenerative changes; lesion most marked in gray matter; most severe in dorso-lumbar cord, though present in cervical region, medulla, and pons.
Reulinger, <i>Mil. anal.</i> , 1896, 23 years; No. 27, p. 11 days; 213.	Male;	Malaria?	Paraplegia; later pa-ralysis of all four extremities; dysphagia, dysphonia, asphyxia.	Pains in legs worse on movement; no loss of sensi- bility.	Normal.	Abol- ished.	Not given.	P., 96. Normal.	Acute hyperplastic splenitis. Spinal cord (Nissl): inflammation in central branch of anterior spinal artery; no thrombi; few streptococci seen in section; spinal cord inoculated in bouillon gave pure culture of <i>Streptococcus luteus</i> . Injected in rabbits—no effect.
Marie and Mari-nesco, <i>Rev. d. sci. med.</i> , 1896, 7 days; 93, p. 134.	Male;	None.	Ascending to bulbar muscles.	Lost in legs.	Reten- tion of urine.	Not given.	Not given.	Not given.	Softening in anterior horns of cord; hemorrhages in fourth ventricle; disappearance of nervous elements in anterior horns and infiltration of leucocytes; bacteria in sections resembling anthrax.
Bailey and Ewing (pres- ent article).	Female; 36 years; 10 days.	None.	Paralysis of legs, then of right arm, with paresis of left arm; left ptosis; dyspnea, dysphagia, dysphonia, asphyxia.	Normal; no pain.	Normal.	Lost.	Re- tained.	P., 100. T., 101.5.	Acute poliomyelitis of spinal cord and medulla; vascular and exudative changes in motor cortex, basal ganglia, and cerebellum; degeneration of ganglion cells; slight vascular changes in nerve roots; peripheral nerves not ex- amined; acute degeneration of viscera.

## GROUP II (b).—Cases in which Lesions were found in the Peripheral Nerves.

Dejerine et Guetz, <i>Arch. de physiol.</i> , 2d series, t. iii, 876, p. 312.	Male; 45 years; 5 days.	None.	Complete paralysis of legs, later of arms; dyspnea, asphyxia.	Pains in legs and arms; sensa- tion to touch normal.	Reten- tion of urine.	Not stated.	Not stated.	P., 100. T., 102°.	Spinal cord (chromic acid, carmin) found normal; degeneration of fibres, with increase of nuclei in neuroglia, in some of the anterior nerve roots.
Putnam, <i>Boston Med. and Surg. Jour.</i> , 1889, p. 159.	Male; 28 years; 7 days.	None.	All four extremities; no bulbar signs until the end, then dysphagia and dyspnea.	Pains over whole body; numb- ness of feet.	Not stated.	Not stated.	Not stated.	Normal.	Acute hyperplastic splenitis; peripheral neuritis; cord not exam- ined.
Eisenlohr, <i>Dent. med. Woch.</i> , 1890, No. 38, p. 841.	Male; 18 years; 8 days.	Three weeks previously fever and headache.	Paralysis ascending, involving medulla.	Parasthesia; sensibility and muscular sense retained; nerve trunks sensi- tive to touch; no pain.	Normal.	Lost.	Normal.	Normal.	Blood sterile on gelatin, and mi- croscopically contained no organ- isms; spleen very large; spinal cord normal; degenerated fibres in right hypoglossal and right phrenic, in anterior roots of cer- vical nerves, and in other pe- ripheral nerves; no changes in posterior roots; bacterial stains negative in nerves; thorough bacteriological examination of spleen, cord, and nerves nega- tive.
Hun, <i>N. Y. Med. Jour.</i> , 1891, liii, p. 609.	Male; 45 years; 12 days.	None.	Paralysis of all ex- tremities and left facial nerve; dysphonia, dysphagia, asphyxia.	Normal; no pain.	Reten- tion of urine.	Ab- sent.	Normal.	Normal. Pulse regular, rapid.	Slight cerebral and spinal menin- gitis; infiltration of walls of some veins of spinal pia mater, and degeneration of some fibres of anterior roots of cauda equina; nervous system otherwise normal; cultures on agar from brain, medulla, and cord nega- tive; no bacteria seen in tissues.

## GROUP II (c).—Cases in which Lesions were found in both Spinal Cord and Peripheral Nerves.

References.	Sex, age, duration.	Ætiology.	Paralysis.	Sensation.	Spine- ters.	Re- flexes.	Elec- tricity.	Pulse and tempera- ture.	Autopsy.
Eisenlohr, <i>Deut. med. Woch.</i> , 1890, xxxviii, p. 841.	Female; 59 years; 17 days.	None.	Paralysis ascending from legs to medulla.	Pain in legs and back; diminished sensation.	Reten- tion of urine.	Tri- ceps reflex only, re- tained.	Reac- tion to fara- disin- in arms and in- ter- costals; other mus- cles not tested.	Normal.	Pulmonary tuberculosis; spleen soft, not enlarged; anterior nerve roots degenerated; cord normal, except a focus of swollen axis cylinders and degenerative products in 11th and 12th dorsal segments; posterior roots normal. Bacteriological examination: 2 cultures, No. 1 occurring in all organs, <i>Staphylococcus pyogenes aureus</i> , No. 2 from spleen and sciatic nerve only, <i>Staphylococcus cereus</i> (Passet); sections contained a few bacilli and cocci, but no tubercle bacilli.
Centanni, <i>Ziegler's Beil.</i> , 1890, viii, p. 358.	Male; 7 days.	None.	First legs, later arms and diaphragm; dysphagia, paralysis of obicularis palpebrarum; pupils normal.	Pain in legs and back.	Normal.	Ab- sent.	Not tried.	T. nor- mal.	Nerves: vessels prominent and surrounded by exudate; nerve-fibres not much altered. Cord: leptomeningitis and inflammation around the central canal; atrophy of peripheral fibres; other parts of nervous system normal; in all peripheral nerves there is a bacillus in large numbers; cylindrical, with rounded ends, without spores or special grouping, usually found in endoneural lymph spaces, not found elsewhere; no cultures made.
Giuzetti, <i>Rif. Med.</i> , 1894, ii, pp. 5, 19, 31.	Male; 19 years; 9 days.	Exposure to wet.	Paresis; then paralysis of legs, then of arms; dysphagia, dysphonia, asphyxia.	Formication; pain in median and trigeminus trunks on pressure; some tenderness in muscles; pain over vertebral spines.	Reten- tion.	Ab- sent.	Not given.	P., 120. T., 99°.	Spleen large and soft; disintegration of fibres of cord most marked in lumbar region, absent in medulla; ganglion cells cloudy with indistinct nuclei; about vessels a ring of granular substance, not staining like fibrin; recent punctiform hemorrhages in medulla and pons; degeneration of anterior and posterior spinal roots, most marked anteriorly. Peripheral nerves: multiplication of nuclei of neurilemma; some vessels of nerves surrounded by leucocytes. Bacteriological examination: Rabbit injected with emulsion of spinal cord and spleen pulp, result negative; cultures from brain, cord, sciatic nerve, heart's blood, spleen, mesenteric glands, urine, on various media, all negative except 2 tubes from sciatic and 1 tube from cord which grew a chromogenic bacillus; no bacteria seen in sections.
Ballet, <i>Med. Week</i> , 1895, iii, 526.	Male; 33 years; 7 days.	Influenza.	Of legs, then of arms; dyspnoea, cyanosis.	Nearly normal.	Not men- tioned.	Lost.	Not men- tioned.	Fever.	Spinal cord: circumvascular changes, especially around the anterior horns; degeneration of nerve cells, shown by Nissl's method; the anterior roots and peripheral nerves were "the seat of lesions without special features." Cultures from brain and medulla were negative; no bacteria seen in tissues.

## GROUP III.—Cases hitherto described as Acute Anterior Poliomyelitis, or Infantile Spinal Paralysis.

Rissler, <i>Nord. Med. Arkiv.</i> , 1888, xx, p. 22.	Child; 44 years; 6 days.	Epidemic in Stockholm.	First of left leg, then of right; arms free; right pupil larger than left.	Pain in legs; sensibility normal.	Bladder normal; constipation.	Ab- sent.	Not given.	Not given.	Spleen soft. Spinal cord: degeneration of ganglion cells; nerve fibres of gray matter and anterior columns of white matter are degenerated; proliferation of glia cells; occasional hemorrhages; vessels increased in size and number; circumvascular infiltration; vascular changes almost entirely limited to gray matter; degeneration of anterior roots; degeneration of both hypoglossi and one vagus.
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References	Sex, age, duration	Ætiology.	Paralysis.	Sensation.	Spine-ters.	Re-flexes.	Elec-tricity.	Pulse and temperature.	Autopsy.
Rissler, <i>loc. cit.</i>	Female; 21 years; 8 days.	Epidemic (exposure to cold).	First of right, then of left leg; then of arms and trunk; dysphonia, asphyxia.	Normal; no pain.	Normal.	Absent.	Not mentioned.	T, 100.5°.	Spleen soft; changes in cord similar to previous case; medulla not examined.
Rissler, <i>loc. cit.</i>	Child; 5 months; 6 days.	Epidemic.	Paralysis of all four extremities; dysphagia, dysphonia, asphyxia.	Test impossible.	Normal.	Lost.	Not tried.	Not given.	Spleen soft; changes in cord same as in other cases; lesion in vagus.
Dauber, <i>Deutsch. Zeitsch. f. Neurol.</i> , 1893, xiv, p. 200.	Boy; 8 1/2 years; 5 days.	None.	Both legs and left arm; paresis of right arm; drooping of left labio-nasal fold; pupils react slowly; eyes turned upward and outward; dyspnea.	Not stated.	Not stated.	Absent.	Not stated.	P. rapid, T, 100 to 100.5°.	Medulla, intense hyperæmia around motor nuclei; circumvascular infiltration of round cells, which also form a free exudate in glia tissue; degeneration of nerve cells of nuclei, xii and x; central canal normal; changes chiefly in gray matter, though also in white; pia infiltrated. Spinal cord: similar changes in entire cord (cervical, lumbar); involvement of posterior horns as well as anterior; degeneration of columns of Clarke; lesion also seen occasionally in pyramidal tracts.
Goldscheider, <i>Zeit. für klin. Med.</i> , 1893, xxiii, p. 494.	Female; 24 years; 12 days.	None.	Legs; dyspnea, asphyxia.	Not mentioned.	Not mentioned.	Not mentioned.	Not mentioned.	Fever.	Degeneration of ganglion cells; vessels full; circumvascular infiltration; changes chiefly in anterior horns, though also in lateral columns; pia infiltrated, most markedly in lumbar region, also in cervical and dorsal; medulla, nerves, muscles not examined.
Redlich, <i>Wien. klin. Woch.</i> , 1894, No. 16, p. 287.	Child; 5 months; 10 days.	None.	Four extremities; dyspnea, dysphagia, dysphonia, asphyxia.	Slightly diminished sensibility.	Not given.	Lost.	No reaction.	Slight fever.	Polymyelitis of whole cord, extending into white matter; acute degeneration of ganglion cells; circumvascular infiltration of vessels; anterior horns most affected; areas of inflammation in medulla, especially around nuclei of 12th and 14th nerves. Nerves; some degeneration in brachial plexus.

## SYMPTOMATOLOGY.

LESION.	None found	In cord.	In nerves.	In cord and nerves.	Infantile spinal paralysis.	Total.
Group	I.	II (a).	II (b).	II (c).	III.	
<i>Age:</i>						
Adults.....	15	12	3	3	1	34
Children.....	1	0	1	1	5	8
Not given.....	0	2	0	0	0	2
<i>Sex:</i>						
Males.....	13	8	4	3	1	29
Females.....	3	4	0	1	2	10
Not given.....	0	2	0	0	3	5
<i>Duration:</i>						
Length in days.....	6-28	3-28	5-12	7-17	5-12	3-28
<i>Ætiology:</i>						
None.....	8	10	3	2	3	26
Phthisis.....	1	0	0	0	0	1
Variola.....	1	1	0	0	0	2
Indefinite infection.....	2	1	1	1	0	5
Exposure and exertion.....	2	0	0	1	0	3
Epidemic.....	0	0	0	1	3	3
Typhoid fever.....	1	1	0	0	0	2
Syphilis.....	0	1	0	0	0	1
Diphtheria.....	1	0	0	0	0	1
<i>Sensation:</i>						
Normal or nearly normal.....	8	12	2	1	3	26
Pointing to neuritis.....	7	1	2	3	0	13
Not given.....	1	1	0	0	3	5
<i>Spinal-cord:</i>						
Normal.....	7	8	1	1	3	20
Involved.....	4	4	2	2	0	12
Not given.....	5	2	1	1	3	12
<i>Reflexes:</i>						
Normal.....	2	0	0	0	0	2
Diminished.....	1	1	0	0	0	2

LESION.	None found.	In cord.	In nerves.	In cord and nerves.	Infantile spinal paralysis.	Total.
Group	I.	II (a).	II (b).	II (c).	III.	
<i>Reflexes:</i>						
Lost.....	12	8	2	4	5	31
Not given.....	1	5	2	0	1	9
<i>Electrical Reactions:</i>						
Retained.....	10	5	3	1	0	19
Absent.....	0	0	0	0	1	1
Not mentioned.....	6	9	1	3	5	24
<i>Temperature:</i>						
Normal.....	8	6	3	3	0	20
Moderate fever.....	5	3	1	1	4	14
Complicated.....	1	2	0	0	0	3
Not given.....	2	3	0	0	2	7

(To be concluded.)

**A Sign of Hereditary Tuberculosis.**—The *Universal Medical Journal* for June contains an abstract of an article from the *Gazette hebdomadaire de médecine et de chirurgie* for March 19th, in which the writer states that M. Victor Hanot, from three cases observed by him, believes that stenosis of the pulmonary artery may be a manifestation of pulmonary tuberculosis. He asks whether stricture of the pulmonary artery might not be similar to the congenital aortic stenosis of chlorosis and an heteromorphous manifestation of tuberculosis. It would in that case, he says, not be presumptive of phthisis, but of immunity against phthisis.



## ACUTE OTITIS MEDIA.\*

By A. T. MUZZY, M. D.

ACUTE otitis media is a form of ear trouble that all have an interest in, and that should not be left entirely to the specialist. Perhaps none of us are so young as not to recall the time when sudden pain and inflammation in the ear received no further attention than an anodyne injection without examination, and a running ear was from principle left to follow its own will as best for the patient.

This affection is generally, whether primary or secondary, a well-marked condition, with a clear-cut beginning and course. The most frequent exciting cause is direct extension, either from the nasopharynx or the external canal. Some of the worst cases arise from the direct effect of cold, especially in elderly people; then come operations on the nasopharynx, particularly plugging for epistaxis, and nasal douching; and among rarer forms violent efforts at clearing the nostrils, and traumatism to the drums, as a "box" on the ear. Finally, I would mention as a prominent exciting cause inhaling of sea water while bathing. One Tuesday during the summer of 1889, at the New York Eye and Ear Infirmary, out of eleven new cases seven were acute otitis media from bathing the previous Saturday at the different resorts on the Long Island and New Jersey shores.

The predisposing causes are, first, inflammations of the nasopharynx, depressed conditions of the system, as in the fevers, the most frequent being scarlatina, the tuberculous diathesis, and pre-existing chronic otorrhea.

The usual course of an attack is a rapid onset of pain, more or less lancinating in character and sharply limited in area. Tinnitus or subjective noise in the ear soon arises, though not complained of on account of the existing pain. The younger the patient is the more likely is it to find fever; frequently in a young child this rapidly reaches vertigo and delirium. Inspection shows a red, swollen, exquisitely sensitive, throbbing drum. Deafness, though present and many times reaching a complete loss of the sense, is slower in development. After a time, varying from a few hours to two or three days, a more or less copious discharge takes place, on the appearance of which pain and swelling subside, and disappear frequently more rapidly than they came. There are some cases where the pain ceases without any discharge appearing; here the subsidence is gradual and slow. A second variety from the usual form is where the discharge appears without any preceding pain.

Inflammation may affect only a part of this very small space—the Eustachian canal, the canal and lower

portion, the vault or attic alone, or the inner surface of the middle ear.

There are a few conditions where this trouble, usually so clear, is liable to be mistaken for other processes. In a child, pain in the head, vertigo, delirium, fever, without inspection of the ear, might be mistaken for meningitis. But meningitis rarely sets in with such suddenness, such acute pain, such high fever; the pulse, and the vomiting if present, are not meningitic. Besides, neither the respiration nor the pupils or oculomotors are affected. Still, it will be well to remember that even an acute otitis media may bring on meningitis. In another condition acute otitis media may be—very frequently is—insidious, and that is where it is a complication of or secondary to bad cases of scarlet or typhoid fever. The patient gets restless, clutches at the ear, or buries the head in the bedclothes; a more or less sudden increase in the delirium, if already existing, or a delirium changing into coma, leads the observant physician to examine. And inspection of the ear shows redness, swelling, or discharge.

The result of an attack in active healthy persons is good and speedy, even though the seizure has been severe. But in strumous, unhealthy children subacute attacks, even, will require great patience and care to bring them out to a successful issue. This is especially true where the cases are complications of or closely secondary to the exhaustive fevers.

In treatment the first point is the pain. The more acute, however severe, the more sure will be the benefit from leeching, whether with the natural or artificial. To myself the artificial is far preferable; it is applied more speedily, it draws more steadily, creates more surface irritation, and is clean comparatively. Next to leeching comes heat—dry, moist, or liquid—hot water injected slowly and gently; hot meal, sand, or the Japanese hot box. Try the dry form of heat first. The employment of laudanum or other anodynes is useless and wastes precious time. Cathartics as derivatives, mercurials or salines, should be used early. Many of the best authorities speak of the puncture of the drum. That close watch should be kept, and this incision be made as early as the inflammation bulges the membrane in a definite portion, is well. It is a very valuable procedure. But if your patient is a sensitive child, with ear exquisitely tender and with much swelling of the external canal, it will be far safer and as effective to rely on leeches, heat, and cathartics than to try a stab in the dark. Don't forget the proximity of the internal carotid, and that it has been punctured. If in an adult you have punctured the drum, and matter only presents without extruding, inflation by the Politzer apparatus will assist to remove the pus.

After-treatment—that is, after disappearance of pain—consists in cleansing and use of astringents, pure fifteen-volume peroxide, followed by a swab of alcohol, and dusting or even a heavy coating of powdered borax,

\* Read before the Society of the Alumni of the City (Charity) Hospital, May 6, 1896.



but never a filling of the canal, as was recently much in vogue.

Before closing it needs to be stated that the inflammatory process may at any time spread to the mastoid cells. This is heralded by an increase in the severity of all the symptoms; the pain that had gone down or disappeared reasserts itself and spreads over the side of the head, and changes in character; the discharges may in a few hours disappear altogether; swelling over the mastoid takes place (though this is uncertain), but tenderness to light tapping or firm, deep pressure by the finger is a safe but not infallible guide to indicate the presence of inflammation of the mastoid cells.

### SUDDEN DEATH AND THE CORONER.\*

By JOHN B. HUBER, A. M. M. D.,  
EX-CORONER'S PHYSICIAN OF NEW YORK CITY.

AN indispensable adjunct of government is an officer charged with the duty of investigating deaths from other than natural causes. Whichever system is in vogue, the objects sought after and the lines worked upon are practically the same.

In New York this duty is assumed by the coroner, who, except in instances to be mentioned later, has a jury summoned, before whom he places all the facts in a given case. These gentlemen then determine, first, the cause of death; and, second, if any one has caused the death, the person or persons responsible.

If the coroner's jury find evidences of guilt, the matter is laid before the grand jury by the district attorney, and if that body finds a "true bill," there follows a prosecution in the criminal courts; or, if the death has been accidental, a suit for damages may be brought in the civil courts.

The coroner appoints a physician, who is called the "coroner's physician." The duty of this officer is to view the dead body, to make an autopsy if necessary, and to state his opinion as to the cause of death, which opinion is based upon the post-mortem examination and the history of the case.

The coroner is empowered to have witnesses attend the inquest. The witness will testify either as to facts, or he may give expert testimony. In the latter case a physician can not be called upon to testify except by pre-engagement and for compensation.

In testifying, the physician will address the jury, who are laymen. He should therefore state facts precisely and in simple terms. He should answer the questions put to him by the coroner or the counsel deliberately, and should require to have a question repeated if it be not entirely comprehended. And technical expressions, if it is necessary to use them, should be followed by translation into popular language.

The coroner may inquire whether death was due to accident, suicide, or homicide; and if there were traumas, when, where, and how, by what means, and by whom they were inflicted.

Accurate descriptions may be required of wounds, contusions, fractures, burns, or whatever the nature of the injury may be in a given case, and the medical history may have to be detailed. Embarrassment on the witness stand may be avoided if a record of the case be kept, to which the physician may refer while testifying.

It is important for the self-protection of the surgeon to record the character of any operation performed for the relief of an injury where the prognosis is grave. The condition of the patient before the operation, especially as to inflammation and possible septic processes, the character and the details of the operation performed, and its sequelæ should be described.

The operation should not be decided upon except after consultation, especially in homicide cases, for the physician has upon his shoulders not only a medical but also a medico-legal responsibility. There should be strict antiseptics, and as perfect surgical technique as possible, and the physician should be able to state clearly the necessity for the steps taken, and, in the event of death, to what extent, if any, the operation may have been contributory. The following is an illustration on this subject:

A woman who had been shot under the left eye by her husband was immediately afterward brought to one of our hospitals. On her entrance a piece of the bullet was found in the substance of the muscular tissue in the temporal region. The surgeon, with the hope of locating the remainder of the bullet, used a probe, which entered the cranium. On the third day after the injury it was decided to trephine, the diagnosis of extensive intracranial hæmorrhage having been made. On the fourth day the patient died.

The autopsy revealed fractures of the left malar and temporal bones and laceration of the muscles in the temporal region. Within the cranium there was found a subdural lining of coagulated blood, which had formed the circumference of a clot of about the size of a goose's egg, and which had been removed in the operation on the third day. There was laceration of the brain and an inflammation of the pia in the exudative stage, the meningitis having been especially marked about the site of the injury. A fragment of the bullet was found in the substance of the left temporo-sphenoidal lobe. The cause of death was stated to be meningitis following pistol-shot wound in the head.

At the inquest the attorney for the defense sought to attribute the death to the surgical means employed, maintaining, in the first place, that infection may have followed, and have been caused by the operation; and in the second place that the meningitis may have been due to the introduction of the probe, which may have been septic. Upon the former point it was shown that

\* Read before the Society of the Alumni of the City (Charity) Hospital, May 6, 1896.

the meningitis in the effusion stage could not have developed in the twenty-four hours intervening between the operation and the death. The latter point was argued at length, with little hope of a satisfactory conclusion, until it was stated that the death must inevitably have followed the extensive intracranial hæmorrhage and the laceration of the brain. The finding of the jury was in accordance with this statement.

What steps should the attending physician take in "coroner's cases"?

The law of the State of New York requires that the coroner shall take action "whenever any person has been slain or has suddenly died, or has been dangerously wounded, or has been found dead under such circumstances as to require an inquisition." The coroner should be notified whenever any person has been dangerously wounded, in order that an ante-mortem statement may be taken.

The meaning of the phrase "sudden death" extends to cases where death has followed an illness of less than twenty-four hours, and where a regular physician has not been in attendance beyond that length of time. In most cases the course is obvious. It is the duty of every citizen to report a case of violent or suspicious death; this may be done by the attending physician, the members of the deceased's family, or any interested person. The coroner's office is open throughout the twenty-four hours to receive information either by telephone or by letter, or the police may be notified, who will in turn notify the coroner. It is in cases where the unofficial mind does not see the necessity for investigation that trouble is apt to ensue, as where there is a fracture of the femur in the aged, or erysipelas following a quite innocently inflicted wound.

The physician may dread being called away from his own very important work to attend court. The family of the deceased may picture to themselves the coming of public officers to the house, the appearance of a jury, an autopsy against their wishes, subpoenas to appear at the inquest, and a ventilation of private concerns in the court room.

It may not occur to the attending physician that an inquest would be required. He may, instead of having the coroner notified, send a certificate to the health board, only to have it forwarded to the coroner's office for further action. The certificate thus made out may have been sent to the health board a few hours before the funeral, so that that ceremony may have to be delayed or postponed until after the coroner's investigation. Or some suspicious person may inquire why the coroner had not been notified at once, and the suspicion may spread in the familiar way. Thus, in an altogether innocent matter, much hardship may be added to that which the family already suffers.

The law of the State of New York has, so far as the city of New York is concerned, wisely provided for all such cases. It states that—

"When, in the city and county of New York, any person shall die from criminal violence, or by a casualty or suddenly when in apparent health, or when untended by a physician, or in prison, or in any suspicious or unusual manner, the coroner shall subpoena a properly qualified physician, who shall view the body of such deceased person externally, or make an autopsy thereon, as may be required. The testimony of such physician, and that of any other witnesses that the coroner may find necessary, shall constitute an inquest."

The practice in the coroner's office is quite in conformity with this law. The coroner's physician assigned to the case will visit the house, view the body, and receive statements. It will not be justifiable to make an autopsy if the other evidence that the death was a natural one is conclusive. The coroner's physician will submit the results of his investigation to the coroner, and, if the report is satisfactory, a certificate is granted.

In such cases the attending physician's statement will be more than ordinarily valuable, because it will be that of a medical man. If he will soon after the death mail to the coroner's office, or leave at the house of the deceased, a letter addressed to the coroner, giving in a few words the medical history of the case, and his opinion whether the death was due to natural causes, he will help greatly to simplify matters, and the coroner's physician will be sincerely thankful for his assistance.

Such a statement will in appropriate cases obviate the issuing of a subpoena for the physician's appearance at the coroner's office. The hospitals of the city are provided by the coroner's office with printed blanks, on which the required statements may be written.

The following are some examples of causes of death given in certificates sent to the health board which have been in time sent to the coroner's office:

Asthenia de senectute.

Contributing cause, fracture of femur.

The fracture was probably sustained in falling out of bed or by slipping on the street. But some one may have struck or pushed the deceased, thus becoming more or less responsible for the death. In any event, whenever the result of an accident has contributed, no matter how remotely, to the death, the case is one for investigation.

Meningitis.

Erysipelas.

Peritonitis.

Gastro-enteritis.

It should have been stated whether the disease was idiopathic or the result of a fall, a wound, a blow, or the ingestion of poison.

Convulsions.

Heart failure.

Edema of lungs.

Such are immediate causes of death. The underlying, essential causes should have been given.

The coroner's office is from time to time charged with the unpleasant duty of investigating deaths following criminal abortion.

Any physician may be called upon to see a patient suffering from the more or less disastrous results of an attempted criminal operation. If he has the slightest ground for suspicion, the physician would do well in such cases not to make any examination, digital or other, except in the presence of a colleague. Nor should he induce an abortion, however legitimate the object, without consultation and medical assistance. Upon this subject I should like to cite the following case:

A poor girl in this city became pregnant. There was an abortion at about the fourth month, followed by septicæmia and death. The autopsy showed the cause of death to have been puerperal septicæmia. Decomposed placental tissue was found in the uterus, but there was no mark of instrumental violence.

Shortly before her death the girl made an ante-mortem statement, in which she named a physician whom she accused of having operated upon her. The accused physician declared that, although the girl had called at his office, he had seen her but once, and that, on finding her errand to be to importune him to induce an abortion, he had absolutely refused to treat her, that he had not prescribed for her, and that he had not examined her either by digital examination or by the use of instruments, or in any way whatever.

However, he was arrested and imprisoned; he was for a long time under bonds; his name was exploited in the public press in connection with the case; and he had to pay heavily, without hope of remedy, for the services of counsel, not to speak of loss of time, the injury to his practice, and the great mental strain to which he must have been put.

Finally, after a number of weeks, his case came up before the grand jury, and that body, in refusing to indict him, placed the guarantee of the law upon the truth of his statement, and established his innocence.

152 WEST FORTY-EIGHTH STREET.

## A PLEA FOR PHYSIOLOGY OF THE SEXUAL SYSTEM.

By A. C. McCLANAHAN, M. D.,  
RED LODGE, MONTANA.

If the importance of a subject were to be estimated by the frequency with which we find a knowledge of that subject useful, the ordinary general practitioner, whose duties range all through the domain of medicine and surgery, would unhesitatingly say that it is more important to know when and how to extract a tooth than it is to be able to perform a vaginal hysterectomy.

Whether this standard of importance is correct or not, there are many little things that merit more attention than they receive in standard medical literature. There are many conditions which require no treatment, and we may call these conditions "little things," but whenever an ailment really is so trivial that it requires no treatment, it would be gratifying to the physician to

know this to be true, and to know why it is true. The things which we should not do are at least as numerous as those which we should do. A little knowledge of these things would be useful, and might enable us to convince a patient of the needlessness of treatment without losing his subsequent patronage. It might enable us to charge an honest fee for relieving the patient's anxiety, instead of robbing him, as we do whenever we charge for a worthless placebo. A placebo is a confession either that the physician has not made a diagnosis, or that he does not know how to treat what he has diagnosed. If he knew, he would prescribe medicine that would in itself have the desired effect. If he knew nothing to be the matter, he would, it is to be hoped, prescribe nothing, and thus avoid confirming the patient in his erroneous opinion; for such confirmation of such erroneous opinions comes very near the border line of quackery, if, indeed, it does not pass beyond it.

Among the "little things" that have received least attention, in the eager rush of modern doctors to distinguish themselves by unsexing some woman, or by cutting off some one's appendix vermiciformis, I should like to mention sexual physiology. Whether this subject is really little or not I do not know, but it has received little enough attention. Sexual pathology has filled volumes without number, some of which have been written for the profession, and some for the laity; it also constitutes a large proportion of the reading matter in modern newspapers; but the consideration of sexual physiology is limited to a few perfunctory remarks by a very few writers on general physiology, or by some writers on the treatment of sexual diseases. At least, if there are any books in which this subject is satisfactorily treated, their names do not appear in the catalogues of the principal booksellers of this country.

Now, because we do not need to treat every sexual phenomenon which our patients present, it does not follow that we do not need to know anything about these phenomena. It is not quite self-evident that, while we need countless volumes to tell us about abnormal sexual functions, we can learn all about normal sexual functions by intuition. So great is the dearth of literature on one side of this subject, in comparison with its richness on the other, that the mere mention of sexual functions suggests something abnormal. So profound is the silence upon one side of this subject that most men and women, upon first learning that they have sexual feelings, imagine that they are either abnormal or unclear. Most of them keep what they imagine to be their awful secret to themselves till the lapse of time teaches them that, whether they are different from other people or not, their capacity for usefulness has not been impaired, their ideas of right and wrong are not less exalted than they were before, and life is still worth the living; but, in the mean time, they have endured needless suffering. On the other hand, many of them, impelled by an awful fear, as vague as it is awful, seek the advice of some



physician or some quack. If they consult the latter, he robs them systematically. If they consult the former, he usually acts on the assumption that any one who feels miserable enough to consult a physician is suffering from something that is not normal. This easy assumption makes it unnecessary to perform the difficult task of determining, by a careful consideration of the phenomena presented by the patient, whether these phenomena are normal or not. The physician accordingly classifies the patient's condition as one of sexual neurasthenia or hypochondriasis, passes a sound, prescribes some drug for some vague purpose, or orders a placebo for no purpose at all—except to deceive the patient, while Nature does the work and the doctor gets the credit. Of course, as a rule, the patient recovers—from what? Not, as a rule, from sexual neurasthenia or sexual hypochondriasis. If a young man or woman experiences a series of new and strange feelings concerning which he or she has been kept in the densest ignorance; concerning which all the world preserves an awful silence; concerning which no one ever speaks except in a guilty whisper; and if, in addition to this, this boy or girl has read in the advertising columns of respectable papers what the awful consequences are of every sexual feeling or lack of sexual feeling—normal, abnormal, or otherwise—and then, if this boy or girl, man or woman feels sufficient uneasiness about his or her condition to consult a physician, that physician has no scientific right to classify this case as one of sexual neurasthenia, hypochondriasis, or any other disease; nor has he, in my opinion, any moral right to treat it. Such a case is simply one of fear and anxiety; and, under the circumstances, both fear and anxiety are perfectly physiological mental phenomena. The physiological effect of fear and anxiety on the bodily functions is depression, and the effect ceases with the cessation of the cause, unless the latter has been excessive or very protracted. Even after excessive and protracted depressing mental emotions, the effects, as a rule, speedily disappear after the cause ceases to act, in obedience to Nature's laws, and without any aid from doctors. Such a patient as I have described would usually get well with treatment, without treatment, or in spite of treatment. What right have we to regard pain, either physical or mental, as necessarily abnormal? If I cut my finger, pain will be the physiological result. I have a right to relieve such pain, but I have no scientific right to regard it as abnormal, or to assume that Nature would not, in most cases, relieve it without any aid from me. Perhaps the pains of most men's lives outweigh the pleasures. Look for a moment at the bumps and bruises and burns, the tears, the trials, and the tyrannies of childhood; at the jealous passions and unrequited loves of youth; at the exhausting labors and consuming anxieties of manhood; at the dreary disappointment and the cheerless loneliness of old age; and at the agony of death, through which we all must pass. Are not these pains perfectly natural and physiological? Shall we lend another ele-

ment of terror to them by calling them abnormal? All along the path of life we feel the pains of pinching cold, of withering heat, of hunger's pangs, of scorching thirst, and deadly weariness; of base ingratitude and causeless malice; of fear, regret, remorse; of grief, anxiety, and disappointment.

The saddest thing in life is life itself, but can we make it less sad by calling it abnormal? Shall we pick out each separate pain, regard it a disease, outline the course of medical treatment that shall be followed, and, in general, create the impression that it could not be recovered from without our advice and medicines? Such a course might increase our profits, but any mental pain, at least, is enormously increased by the belief that it is abnormal, progressive, or that it does not tend to spontaneous recovery; and most sexual pains are mental, normal, non-progressive, and do tend to spontaneous recovery.

One patient consults me because he has morning erections; another because he does not have morning erections. Both felt perfectly well till it suddenly occurred to them that they were suffering from some sexual abnormality. If there is anything that will send the cold shudder of despair along a man's spinal column, it is the conviction that he is a sexual invalid; and it is perfectly natural that this should be so, not because the sexual functions possess any naturally mysterious peculiarity, but because these functions have been shrouded in so much artificial mystery; because such dense and helpless ignorance on the subject prevails in all classes of mankind; and because, by polite society's deathly silence on this subject, the world has succeeded in convincing itself that it is wicked to have any sexual functions, and deplorable not to have any.

If we made as great a mystery of our digestive functions as we do of our sexual functions; never dared to speak of eating or of food prepared for eating; wrote novels filled with descriptions of the pleasures and pains of pursuing and possessing uncooked food, but never dared to allude to the ultimate intention of our heroes to eat that food; and if the intrepid novelist who did dare, even in the vaguest and most indirectly suggestive way, to speak of that intention, were branded as an infamous writer of immoral books—the misery of mankind would be transferred from the sexual organs to the stomach. Great God! the Creator of all Nature, is it a crime to possess a penis or a vagina? Or, possessing one, is it a crime to feel the natural desire to put it to its intended uses? Or, being subjected to the ordinary vicissitudes of life, being occupied with other interests, shall we wear the brand of physical or mental inferiority if from time to time all such desires are absent?

More suffering is caused by ignorance than by all other causes.

Now, let us return to the patients who are troubled by the presence or absence of morning erections. I tell them both that their condition is perfectly natural; and

tell each that, sooner or later, he will experience the exact opposite of his present condition; that this new condition will be equally natural, for the reason that the uniformity of nature requires that the same cause shall produce different effects under different circumstances, and circumstances are constantly changing; that all that he is suffering from is mental distress; that he would, in due time, have recovered from this without any doctor's advice; but that, if I have shortened the period of his suffering, and enabled him to escape such suffering in the future, I am entitled to my usual fee.

Of course, I do not mean by this that there are no diseases of the genital organs. Gonorrhœa is a very real disease. Cases of neurasthenia or hypochondriasis undoubtedly exist in which the sexual element is a prominent one, and this element may figure as cause or as effect. Impotence is occasionally a reality. Real impotence, however, is a less calamity than the loss of one's teeth, and it remains true that most people who are seriously distressed on account of their genital functions are not the victims of any disease, and do not require treatment.

I must admit that, after receiving this information from me, such a patient usually consults some other physician; and, under the influence of the delusion that distance lends value to advice as it lends enchantment to a view, he will look up the address of some medical college of which he never heard before; write to "The Dean," "The President," or "The Secretary"; cheerfully put himself in the care of a man three thousand miles away, whom he never saw and never will see, of whom he never heard, and whose very existence is a matter of the merest inference; and then he will proceed to get well. The dean, the president, or the secretary of a medical college is of necessity an expert in the treatment of sexual debility. O Credulity, thy name is Man!

I have the greatest faith in drugs, nursing, surgical procedures, regulation of diet, and regulation of habits when these things are necessary. They are seldom necessary in the class of cases under consideration; and when a patient is suffering from ignorance, pure and simple, is it not best for him, and most creditable to the doctor, to supply information instead of drugs? The patient may not be satisfied with the assurances of one physician, but, if all respectable physicians would kindly but firmly tell him the honest truth, although he might drift from one to another, he would finally have increased respect for all. He would finally believe the truth, and his suffering would cease.

Most physicians are skillful, honest, self-sacrificing, and sympathetic in the treatment of almost all kinds of ailments except functional disorders of the sexual system. With reference to these troubles the profession may, for practical purposes, be divided into two classes: in the one class are those physicians who share the delusions of their patients, confound the pains of ignorance with the pangs of disease, and honestly regard any varia-

tion from an imaginary standard of sexual health as a mysterious horror which can not be escaped from without professional aid; in the other class are those physicians who regard such ailments as a legitimate object of mirth and ridicule among professional acquaintances, but who generally consent to treat these imaginary ailments with very real drugs, being actuated, it is to be hoped, by doubt rather than by dishonesty.

There is room in the world for more literature on the subject of normal sexual phenomena—literature that shall be written in the spirit of science and with the pen of common sense. My only object is to point out the want, in the hope that some one who is able will supply it. What now passes for sexual physiology is, as a matter of fact, sexual theology. Away back in the dismal darkness of Europe's age of faith, when "the exquisitely tempered steel of Greek philosophy had been shattered by the leaden mace of bigotry," patristicism elaborated a system of astronomy, of geography, of chronology, of chemistry, of mechanics, and, among the rest, a system of sexual hygiene and physiology. Science has dissolved the crystal vault of heaven; removed the petty limits of theology from space, and stretched the universe to infinity; unbound the earth, and given to it a double motion; placed the American continent where hell once was; exchanged six thousand years for eternity; replaced ghosts with gases; given to us gravitation and the laws of motion; and, with the exception of a few anatomical discoveries, left our sexual organs and functions where they were fifteen hundred years ago—in unspeakable disgrace. They are still under the ban of ancient theology. If any one doubts this, let him read the best that modern scholarship has to offer on the subject of the reproductive organs, and he will find that it consists largely of dreary quotations from what ancient theologians had to say on the subject—the same theologians who taught that the earth was flat, and that a telescope was an embodied crime. What we now regard as physiological with reference to these organs is merely what the Church, in the night of her superstition, taught to be right. The spirit of antiquity pervades the whole subject. The absolute annihilation of all sexual acts, words, and thoughts is still regarded as essential to the highest type of purity. While we have two separate words for continence and chastity, the idea conveyed by these two words is, to most modern minds, one and the same. A woman who would confess to feeling sexual desire would lose her reputation for virtue; and because, under these circumstances, she will not often confess to it, we set it down in our text-books that an ideal mother has no sexual feeling, and only submits to her husband's embraces to gratify his passions, and to keep him from seeking gratification elsewhere. Of course, the husband who accepts such sacrifices is regarded as an unutterable beast. Pregnancy still bears the brand of uncleanness, and we exchange sly looks and vulgar winks as it passes by. Infanticide is the result, not so much of parental selfishness as of

the unwritten social odium of maternity. A thrill of sexual delight, whether it be of slight or intense degree, whether it come in the silence of the night or in the glare of the ballroom, is to the modern physiologist, as to the ancient flagellant, an evidence of sexual derangement or of total depravity.

Of course, real social purity is not greater now than it was in the past, and the ideal purity of theology is as impossible as ever. Nature continues to assert herself; desire will be gratified; but, owing to our ideas on the subject, satisfaction is transformed into an infinite sense of degradation.

If modern sentiment on this subject is correct, it would still be just as well to have scientific proofs of it. It looks reasonable to believe that the criterion of the natural is Nature herself. Sexual physiology might be able to claim as her own a great many facts that have been appropriated by sexual pathology, and she might be able to teach us to contemplate an actually pathological sexual condition or act without becoming hysterical about it. She might, for example, teach us why the act of tickling the fauces to induce vomiting for the relief of an overdistended stomach is justifiable, while the act of tickling the genital organs to induce emission for the relief of overdistended seminal vesicles is damnable. She might tell us which of these two acts is the more unnatural, which the more disgusting, and which the more injurious. She might teach us why the salivary fluid, whose flow is excited by the sight of a cooked goose, is a matter concerning which we may speak, with the greatest gusto, to our dearest friends, while a drop of urethral mucus, whose flow is excited by the sight of Beauty's blushes, is a matter to send us to the specialist with shame in our faces and terror in our souls. She might teach us why the rectum—a nasty enough place under any circumstances—is rendered so unspeakably much more nasty by being put to the uses of a vagina. It is not at all probable that rectal masturbation would become universal even if our ideas of its hideousness were brought down to the limits of the facts. We do not eat dirt when we can help it, although we know we should not eternally forfeit our manhood if we did.

There are many other things that real science might tell us about the reproductive system and its functions. It is not my purpose to tell them, but merely to insist on the desirability of their being told by some one who possesses the necessary knowledge or the necessary means of acquiring it; and if it should turn out that scientific men have in the past thrown out a few common-sense truths on this subject, I would plead as my excuse that it can do no harm to take a look at these truths from time to time, and to add a few more to them.

**A Reception to Professor Klebs**, lately elected to the chair of pathology in the Rush Medical College, was given in Chicago by Dr. Fenton B. Turck, on Thursday evening, July 2d.

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THE ANTITOXINE REPORT OF THE AMERICAN  
PÆDIATRIC SOCIETY.

THE report of a committee of the American Pædiatric Society on the use of diphtheria antitoxine, a full abstract of which appears in this number, is a document of unusual importance. It is the first extended report not based on hospital cases which has yet appeared. The results of hospital treatment in some diseases are equal to those obtained in the best private practice; in other diseases they are notoriously bad. Measles, for example, is a most fatal disease in all infant hospitals. In February last, twelve young children sickened with measles in the New York Infant Hospital, and in eleven of them pneumonia of a very grave type developed. Would it be a fair inference to draw from such experience that over ninety per cent. of children who contract measles also suffer from pneumonia, with a correspondingly high mortality rate? Diphtheria belongs to the same category of diseases. As in measles, pneumonia and other complications are of far more frequent occurrence in hospitals than in private practice. Hospitalism is the cause of death of many children upon whose death certificate diphtheria is written.

The feeling has been growing in the profession that the only decisive test of the antitoxine treatment was to be derived from private practice, where the patients are in reasonably good condition at the outset and are fairly free from conditions which tend strongly to render any treatment ineffective. Such a test the American Pædiatric Society has attempted to make. The character of the committee having the investigation in charge offers ample assurance that the work has been done fairly and honestly. Such assurance is confirmed in reading the report, which at once impresses one with the air of judicial fairness which pervades it. No fatal case was excluded even when the cause of death was doubtful. On the other hand, every doubtful case which ended in recovery was excluded. Some cases of mild diphtheria were thus, no doubt, not included, and the death-rates reported



were correspondingly increased. After giving the statistics for all cases, the committee acted quite within its right in excluding those of patients moribund at the time of receiving the injections. The facts that some patients are not seen early by the physician and that in some cases diphtheria runs a rapid and malignant course from the outset is a misfortune, but is not a valid argument against the treatment.

The number of cases—almost six thousand—is certainly large enough to warrant some positive conclusions. Their distribution in the practice of six hundred and thirteen physicians, from a hundred and fourteen cities and towns, in seventeen different States, adds material weight to the report. The results can not be due to local influences. The length of time during which they were observed also precludes the belief that they occurred during a single epidemic.

Certain points with regard to treatment with reasonable certainty by this report; others are still left undecided. The importance of early injections is demonstrated with certainty. The mortality rate of 4.9 per cent. for the treatment begun on the first day, 7.4 on the second day, and 8.8 on the third day, suddenly rises to 20.7 on the fourth day and to 35.3 on the fifth day. The substantiating of Behring's original contention that if patients were injected on the first or second day the mortality would not be above five per cent. must prove of the utmost satisfaction to the practitioner. The infrequent occurrence of pneumonia, both in the fatal cases and in those of recovery, is another very important result elicited by the report. The effect of the serum in protecting the nerve cells and preventing paralysis is not clearly shown by the report, though the results seem to be slightly in favor of the treatment. Such discrepancy exists in the experience of different observers regarding the frequency of paralytic sequelæ that more extended observations will be required to settle this point. It is clear that the nerve elements are extremely susceptible to the diphtheria toxine, and it is probable that antitoxine must be injected early to exert any protective power over them. As regards nephritis, the report adds little to our knowledge regarding the effect of the serum either to cause or to prevent it.

The crucial test of the treatment lies in its effect upon laryngeal diphtheria, the most fatal of all forms of the disease. The diagnosis and the prognosis of this form are so definite and positive that conclusions regarding the results of treatment are far more reliable than in other and more uncertain varieties. The results

reported are definite and unequivocal. They can not be explained away. Of the 1,256 patients with croup, 563 recovered without operation. The death-rate in 533 cases of intubation was 25.9 per cent., including all hopeless cases. Deducting these, the rate was but 16.9 per cent. These results, compared with the best that have ever before been published, are startling. They are strengthened by individual reports from numerous reliable operators. Some of these include series of cases in which the intubations ranged from eight to twenty-seven, each series without the loss of a patient. The change from former results of less than ten per cent. of recoveries from croup without operation to the present record of over fifty per cent. is a marvelous one. Such results must afford unmingled satisfaction to the practitioner who has long found croup and diphtheria among the most stubborn and treacherous enemies he has been obliged to meet.

#### COHABITATION TRAUMATISM IN WOMEN.

Cases in which women meet with injury more or less notable in the act of copulation are by no means of rare mention in the annals of medicine. Obviously, the circumstances are commonly of such a character as to make the woman loath to call in the aid of a physician unless she is suffering great pain or losing a good deal of blood; so we may take it for granted that many instances of some seriousness are never reported, and consequently that the occurrence of greater traumatism than the mere rupture of the hymen is commoner than is generally supposed. How common it must be when one man is able to report three grave cases as having occurred in his own practice! In the *Gazette hebdomadaire de médecine et de chirurgie* for June 4th there is such a report, made to the Bordeaux Society of Gynecology, Obstetrics, and Pædiatry, by Dr. Maxime Chaleix.

Dr. Chaleix's first patient was twenty-two years old. She had been puny in her childhood and on two occasions had suffered with troublesome hemorrhage after the extraction of a tooth. Her history showed that the slightest bruise gave rise to an extensive ecchymosis. Her first coitus was accomplished with only moderate pain, but it produced an abundant and continued hemorrhage which did not yield to injections of cold water or to the application of compresses. Consequently, Dr. Chaleix was sent for in the morning, and he found that the loss of blood had been great



and that it was still going on. The patient was very weak, her skin was cold, her pulse was small, and she had ringing in the ears. The use of a very hot injection had only a transitory effect. An examination showed that the hymen, which was of the annular form and quite thin, had sustained two tears posteriorly, and from their point of junction blood was still flowing, as well as from the posterior wall of the vagina, where, quite behind the hymen, there was an erosion as large as a franc piece. Dr. Chaleix made rather energetic pressure on these points with iodoform gauze and gave a subcutaneous injection of Tanret's ergotine, whereupon the hæmorrhage stopped. The patient made a slow recovery and conjugal relations were resumed without further accident, but she had very violent post-partum hæmorrhage in her first confinement.

In the second case the patient was a very vigorous woman, twenty-four years old. In the first attempt at intercourse the loss of blood due to rupture of the hymen was slight, but the pain consequent on intromission was so great that the husband desisted. For two days some pain remained, and efforts at copulation were suspended, but there was no hæmorrhage. On the fourth night another attempt at coitus was made, but it at once caused extreme pain, together with a more abundant loss of blood than before. The woman got up and washed herself and then went to bed again. She felt that she was still bleeding a little, but disregarded the matter and went to sleep. At two o'clock in the morning she woke up and became aware that she had lost a great deal of blood. There was a great clot between her legs. It was then that Dr. Chaleix was called, and he found a continuous oozing from the vagina. A large hot injection seemed to stop the flow completely, and he left after prescribing an alcoholic restorative. At seven o'clock, however, he was called again in haste. The hæmorrhage had come on afresh after having ceased for some hours, and the patient was very pale and feeble. There was but a single laceration of the hymen, situated posteriorly, and the blood did not come from that, but from the vagina, which was narrow and showed several erosions of its posterior wall. It was tamponed as thoroughly as possible with iodoform gauze, and tonics were prescribed. On the following day the tampon was changed, and its employment was given up two days later. After that, the conjugal act was accomplished without any untoward result. In her confinement the woman had no

dystocia, although the vagina and vulva were still very narrow.

The third case was that of a bride, thirty years old. There had been very great resistance to intromission, but this had given way suddenly and the woman had uttered a loud cry and almost fainted. The husband had withdrawn his penis at once and seen that it was covered with blood. The wife was still bleeding copiously and suffering very acute pain. When Dr. Chaleix arrived, in about an hour and a half, he found a great quantity of blood in the bed and an oozing still going on from the vagina. It proceeded from several points, especially, in a little arterial jet, from the posterior part of the vulvo-vaginal ring. The hymen, pierced in its superior portion by a small orifice, appeared thick and tough. It had not been ruptured, but had been torn bodily from its insertion posteriorly and somewhat on the right side, so that it hung like a thick bloody flap over the posterior commissure of the vulva. A large hot injection was given, and the bleeding artery was treated by torsion. In addition, the posterior wall of the vagina and the bleeding flap of hymen were compressed with iodoform gauze. The hæmorrhage was thus promptly arrested, but it was several days before the bridal pair could resume their journey.

Severer injuries than those observed by Dr. Chaleix have been recorded, some of them consisting of ruptures of the perinæum and of the recto-vaginal septum, a few of which he cites. These injuries are not necessarily incurred on the first occasion of coitus. For example, Dr. Nicolaus Ostermayer (*Wiener medicinische Wochenschrift*, 1895, No. 39; *Deutsche Medizinisch-Zeitung*, June 4, 1896) relates the case of a woman, forty years old, who had intercourse with a man whom she had often been with before, but who was drunk on this occasion and approached her with extraordinary impetuosity, producing a crescentic transverse laceration of the posterior vault of the vagina nearly three inches long. In this instance, however, there were the remains of old inflammatory pelvic disease, which probably facilitated the laceration.

#### MINOR PARAGRAPHS.

##### A CONDEMNATION OF OLD COGNAC.

THE June number of the *Zeitschrift für Krankenpflege* mentions a recent communication to the Paris Academy of Medicine, by M. Daremberg, in which that gentleman is reported to have said that the dearer brands contained a particularly large amount of the so-

called furfural poisons—that the quantity of those substances, as well as of amyl alcohol, was far greater in them than in the brandies commonly sold in the liquor shops. Moreover, chemical analyses with regard to this matter were supported by toxicological experiments. In the first place, M. Daremberg had injected ten cubic centimetres into the auricular vein of each one of seven rabbits, using brandy containing thirty-five per cent. of alcohol bought at five different shops, and not one of the animals had died. On the other hand, he had injected into six rabbits the same amounts of old cognac, sold for sixty francs a bottle and containing thirty-eight per cent. of alcohol, and the animals had died on the spot. Two other rabbits injected with the same amounts of genuine cognac had speedily died also. From all this M. Daremberg drew the conclusion that old cognac was the most dangerous kind of brandy, and that physicians should be most strenuous in forbidding dyspeptic and nervous persons to use this extraordinarily poisonous drink. Brandy at twelve dollars a bottle ought to be pretty good, but, in view of M. Daremberg's experimental results, we can not avoid a doubt as to the quality of the cognac he made use of, in spite of its high price.

#### CRANIOTOMY, THE CÆSAREAN SECTION, AND INDUCED PREMATURE LABOR IN ONE WOMAN.

THE *Centralblatt für Gynäkologie* for June 30th cites the case, published in the *Orvosi hetilap*, of a woman who, having a generally contracted pelvis, was delivered of her first child by craniotomy when she was nineteen years old. A year later, she was delivered of a living child by the Cæsaean operation. Her third pregnancy terminated in abortion in the second month. Her fourth gestation was brought to a close in the thirty-fifth week by the artificial induction of labor, and she was delivered of a living child. The same intervention had been decided on in her fifth pregnancy, but labor came on spontaneously in the thirty-second week. At the time of the report the second, fourth, and fifth children were still living.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 30, 1896:

DISEASES.	Week ending June 23.		Week ending June 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	11	1	13	2
Scarlet fever.....	87	5	64	6
Cerebro spinal meningitis. . .	3	1	1	2
Measles.....	193	14	172	13
Diphtheria.....	218	18	222	33
Tuberculosis.....	260	112	177	119

**The Congressional Antivivisection Bill.**—On May 27th the American Surgical Association, in session in Detroit, unanimously passed the followed preambles and resolutions:

*Whereas*, The American Surgical Association has learned that the Committee on the District of Columbia in Congress has reported favorably a bill adverse to the practice of vivisection in the District of Columbia; and

*Whereas*, The passage of such a law will put an end to all the experimental work in the government laboratories at Washington, from which have emanated im-

portant and useful discoveries, especially as to the diseases of animals; and

*Whereas*, The passage of such a law by Congress will be used as a lever in promoting the enactment of similar laws in other parts of the country, and so do double harm. Therefore be it

*Resolved*, That, to our personal knowledge, the marvelous progress of surgery, especially within the last twenty-five years, is due very largely to experiments upon animals, and the continuance of such experiments is absolutely essential to the further progress of surgical science.

*Resolved*, That in our opinion the humanity of the entire profession is too well known and too constantly and conspicuously shown in their enormous charitable and kindly work to allow the assertion that they would countenance the practice of cruelty or the infliction of needless pain in such experiments to be believed by the American people or their representatives in Congress.

*Resolved*, That, by reason of this very humane sentiment, this association protests against the passage of the bill in question, because it will be a cause of untold cruelty to both man and animals by arresting to a great extent the beneficent progress of surgery.

*Resolved*, That a copy of these resolutions be sent to the President of the United States and to the Senate and House of Representatives.

[Signed] W. W. KEEN,  
H. L. BURRELL, } Committee.  
JOSEPH D. BENNET.

**Harvard University's Suit against the Harvard Medical College, of Chicago.**—The bill filed in this suit, which we mentioned last week, recites that Harvard University "has acquired a peculiar and exclusive right and title in and to the name Harvard, when used or proposed to be used as the name of a university, college, or professional school, and it ought not in equity and good conscience to be assumed by any other institution of learning, and if ever so assumed by any other institution must of necessity be so assumed and used in fraud of your orator's rights and for the purpose of assuming some of the credit and reputation properly belonging solely to your orator, and of injuring and endangering your orator pecuniarily and otherwise, and imposing upon and defrauding the public everywhere." The case will probably come into court next autumn.

**The Mississippi Valley Medical Association.**—The president, Dr. H. O. Walker, of Detroit; the chairman of the committee of arrangements, Dr. C. A. Wheaton, of St. Paul; and the secretary, Dr. H. W. Loeb, of St. Louis, have issued the following announcement:

"A meeting of the executive committee of the Mississippi Valley Medical Association was held at Atlanta on May 6th, and the following gentlemen were appointed to deliver addresses: Dr. H. N. Meyer, of Chicago, the address in medicine, and Dr. Horace H. Grant, of Louisville, the address in surgery. The indications are that the meeting to be held at St. Paul, on October 20th, 21st, 22d, and 23d, will be the largest and most successful in the history of the association. As all the railroads will offer reduced rates for the round trip, an opportunity will be given to visit St. Paul and Minnesota during the most delightful season of the year."

**Change of Address.**—Dr. B. Farquhar Curtis, to No. 7 East Forty-first Street, New York.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 21 to June 27, 1896:*

APPEL, DANIEL M., Major and Surgeon, is relieved from duty at Fort Porter, New York, and ordered to the new post near Little Rock, Arkansas, for duty.

APPEL, AARON H., Captain and Assistant Surgeon, is relieved from duty as examiner of recruits at Chicago, Ill., and ordered to Fort Porter, New York, for duty.

McCAW, WALTER D., Captain and Assistant Surgeon, Fort Ringgold, Tex., is granted leave of absence for one month, to take effect about the 5th proximo.

MAUS, LOUIS M., Major and Surgeon, Fort Sam Houston, Tex., is granted leave of absence for two months, to take effect on or about August 1, 1896.

**Naval Intelligence.**—*Changes in the Medical Corp, of the United States Navy for the Week ending June 27 1896:*

PALMER, S. B., Assistant Surgeon. Detached from the New York Laboratory, June 29th.

ROTHGANGER, GEORGE, Passed Assistant Surgeon. Detached from the Independence, July 15th, and ordered to the Oregon.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Twenty Days ending June 20, 1896:*

McINTOSH, W. P., Passed Assistant Surgeon. To proceed from Louisville, Ky., to Cincinnati, Ohio, to inspect unseviceable property; then to rejoin station. June 13, 1896.

PERRY, J. C., Passed Assistant Surgeon. Granted leave of absence for twenty days. June 20, 1896.

GARDNER, C. H., Assistant Surgeon. Order of May 27, 1896, directing him to report for examination revoked. June 5, 1896.

BLUE, RUPERT, Assistant Surgeon. To proceed from San Francisco, Cal., to Angel Island Quarantine Station for duty. June 18, 1896.

# **Society Meetings for the Coming Week :**

MONDAY, July 6th: New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; Chicago Medical Society; Cleveland Medical Library Association.

TUESDAY, July 7th: Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Broome, New York; Hudson (Jersey City) and Union (quarterly), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, July 8th: American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Tri-States Medical Association (Port Jervis); Franklin (quarterly—Greenfield), Hampshire (quarterly—Northampton), and Worcester (Worcester), Mass., District Medical

Societies; Kansas City Ophthalmological and Otolological Society.

THURSDAY, July 9th: Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private).

FRIDAY, July 10th: German Medical Society of Brooklyn; Cleveland Medical Society; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, July 11th: Worcester, Mass., North District Medical Society.

## **Births, Marriages, and Deaths.**

### *Born.*

GIRDNER.—In New York, on Thursday, June 25th, to Dr. and Mrs. John H. Girdner, a son.

### *Married.*

CASE—LIND.—In Columbus, Ohio, on Thursday, June 18th, Dr. Calvin Luther Case, of Pasadena, California, and Miss Hannah Frances Lind, of Central College, Ohio.

COATES—HESSE.—In Chicago, on Wednesday, June 24th, Dr. William E. Coates and Miss Bertha M. Hesse.

CUTLER—BABCOCK.—In Providence, Rhode Island, on Thursday, June 18th, Dr. George W. Cutler, of Columbia, Missouri, and Miss Emma H. Babcock.

HORTON—SCHRIEVER.—In New Orleans, on Wednesday, June 24th, Dr. Clarence L. Horton and Miss Cora Schriever.

JESSUP—BRITTON.—In Richmond, Staten Island, N. Y., on Tuesday, June 16th, Dr. George Pierson Jessup and Miss Marian Britton.

KIRCHNER—JONES.—In Clayville, N. Y., on Wednesday, June 24th, Mr. George Mitchell Kirchner and Miss Anna Margaret Jones, daughter of Dr. James E. Jones.

ROSE—DEVEREAUX.—In Syracuse, N. Y., on Wednesday, June 24th, Dr. Lewis W. Rose, of Rochester, N. Y., and Miss Imogene Devereaux.

SALLEY—CHAPPELL.—In Smithville, Virginia, on Wednesday, June 24th, Dr. P. M. Salley, of Orangeburgh, South Carolina, and Miss Eugenia Chappell.

TAYLOR—PIERCE.—In Forestville, N. Y., on Wednesday, June 24th, Dr. William G. Taylor, of Buffalo, and Miss Ophelia Frances Pierce.

VON TRESCROW—FOLWELL.—In New Orleans, on Wednesday, June 24th, Mr. Leo Helmuth von Tresckow and Miss Nina Folwell, daughter of Dr. Joseph N. Folwell.

WALKER—CASEBEERE.—In Cedar Rapids, Iowa, on Thursday, June 25th, Dr. Harry Lewis Walker and Miss Maude Elizabeth Casebeere.

### *Died.*

CHOATE.—In New York, on Sunday, June 28th, Dr. George C. Shattuck Choate, of Pleasantville, N. Y., aged seventy years.

COLLINS.—In Brookhaven, Mississippi, on Sunday, June 21st, Dr. Frederick E. Collins.

KENNY.—In Troy, N. Y., on Saturday, June 27th, Dr. Arthur G. Kenny, of West Troy.

SCOTT.—In New Orleans, on Thursday, June 25th, Dr. Joseph T. Scott, in the sixty-fourth year of his age.



TENNANT.—In Phenix, Rhode Island, on Tuesday, June 23d, Clara Greene Tennant, wife of Dr. George C. Tennant.

## Letters to the Editor.

### REFLEX EPILEPSY.

60 WEST FIFTH STREET, June 25, 1896.

To the Editor of the New York Medical Journal:

SIR: In a letter published in your issue of June 20, 1896, Dr. Ranney quotes the following abstracts from a paper of mine on The Medical and Surgical Treatment of Epilepsy (*New York Medical Journal*, June 6, 1896):

"1. Reflex epilepsy is so rare that the proportion of cases in which a reflex cause will be found is certainly not above one or two in a thousand.

"2. In chronic cases where the epilepsy has had its origin in a reflex cause, the convulsive habit has become so strong that removal of the reflex irritation will seldom alter the course of the disease.

"3. There are surprisingly few cases on record in which an operation of any kind whatever for the relief of so-called reflex causes has induced a cure of the epilepsy. I think authentic and trustworthy instances of the kind recorded in literature could easily be counted upon the fingers.

"Bearing these points in mind, the practitioner may perform his gynaecological operations, circumcise, carry out procedures on the nose, tamper with the eye muscles, or what not, but let him not be too sanguine of a successful issue. He will be fortunate indeed to meet with a single success."

I gather from the doctor's letter that his protest is directed more especially against the truths expressed in paragraphs 1 and 3. We will examine the two points which arouse the protest:

I state that *epilepsy from reflex causes is so rare that the proportion is certainly not above one or two in a thousand cases of epilepsy*. Let me amplify this. My own experience is embodied in the paper from which this extract is made, viz.: that "I do not remember to have seen, among several thousand cases, a single one of genuine reflex epilepsy." Consequently, it was in deference to other authorities that I made the proportion mentioned. Not to overburden this brief *résumé* with references, I cite just a few authorities close at hand:

Gowers, whose book (p. 733) is considered to be the best on nervous diseases in the two hemispheres, says: "It is extremely rare to meet with any evidence of a reflex cause [for epilepsy] in the system of the cerebro-spinal nerves, and in the few recorded cases there has been a manifest and strong predisposition in the brain."

Starr (*Familiar Forms of Nervous Disease*, p. 269): "I may add that, in my experience, reflex neuroses of an epileptiform type are exceedingly rare. I have records of six cases only in a series of 3,500 cases of nervous diseases."

Dana (*Text-book of Nervous Diseases*, p. 412): "The importance of reflex irritations has been much overestimated."

Sachs (*Nervous Diseases of Children*, pp. 69-71) does not even mention under Causes of Epilepsy reflexes of any kind, though in a footnote he says concerning reflex epilepsy described as due to peripheral injuries (hand or foot): "A permanent epilepsy is rarely established in this

way." Concerning eye conditions, he says they "may cause single attacks; but they are surely not the cause of the epilepsy."

When I said that the proportion of reflex epilepsies was certainly not above one or two in a thousand cases, I referred to all reflex causes. If I had referred to eye conditions only, I should have said possibly one in ten thousand, if they exist at all as causes of epilepsy.

The second point protested against is the sentence relating to cure of reflex epilepsies: "*I think authentic and trustworthy instances of the kind recorded in literature could easily be counted upon the fingers.*"

Concerning this my censor says:

"Does Dr. Peterson think that no one is 'authentic or trustworthy' who has ever reported cures of epilepsy either by circumcision, the removal of diseased ovaries, the extraction of teeth, the removal of scars, or 'tampering with the eye muscles'?"

"Does he hope to arraign the credibility, honesty, and skill of hundreds of medical men of repute when he says that all 'authentic and trustworthy' cases of the cure of epilepsy by removal of reflex causes can be counted on his fingers?"

In answer I would say that in making such a count of authentic and trustworthy instances, I should exclude the following classes of cases:

1. Cases reported cured too soon after operation.
2. Cases in which the fact of the existence of genuine epilepsy is not well established.
3. Cases reported by writers misled by the personal equation in their judgment of facts.

There are other reasons that doubtless suggest themselves to those familiar with the subject.

The doctor asks me if I "hope to arraign the credibility, honesty, and skill of hundreds of medical men of repute." Will he kindly name one hundred of these hundreds, or fifty, or ten? Will he name five? Indeed, I should shrink from arraigning the credibility, honesty, and skill of any medical man of repute.

I believe that all neurologists coincide in the views expressed here, and that most oculists (with the exception of Dr. Ranney and a few others) are of the opinion that muscular insufficiencies are of no importance in the aetiology of epilepsy.

It is easy to see where the doctor's conclusions from his own experiments are faulty. It is a species of mind-blindness. Conceding the accuracy of his reports of twenty-six cases treated by tenotomies (and in one of his papers he openly boasts of having committed one thousand tenotomies in ten years), it is quite clear that any improvement he may have had in the cases reported is due to but two factors:

1. The withdrawing of the bromides in cases for years under bromide treatment.

2. A species of suggestion and counter-irritation induced by numerous operations on one of the most delicate of sensory organs.

It is a wrong interpretation of these two factors which has led him into conclusions that can not be sustained. It is a fact which has not as yet received sufficient attention, that in cases of chronic epilepsy long treated with bromides relief from attacks for considerable periods of time follows diminution or cutting off of the bromides. This is the experience in hundreds of cases at Bielefeld, and is the experience of physicians at Craig Colony since the opening of that institution. It is the exception to have ill effects follow withdrawal of bromides; but these exceptional cases have originated a somewhat prevalent

but erroneous belief that the withdrawal of bromides tends to increase the frequency of attacks.

Now, counter-irritation is an old and well-tried remedial agent in epilepsy. It used to be employed frequently in the shape of setons and blisters to the neck, blistering of the scalp, and the like. It is often beneficial to a remarkable degree. How much more effectual, especially upon the psychic condition, must be the application of a knife to the eye!

The doctor therefore rightly says that "at least ninety per cent. of chronic epileptics have been better without bromides," but his addition of the phrase "after a satisfactory correction of their eye defects" shows to what extent illogical reasoning may lead.

Then he goes further and makes the statement that about twenty per cent. of his cases have apparently been cured. Having committed a thousand tenotomies in ten years, he reports twenty-six cases of epilepsy only, and states that twenty per cent. of these are cured. The statement is not borne out by his own reports of these cases.

If twenty or even ten per cent. of these twenty-six cases have been cured, which ones are they?

That the cutting off of bromide treatment and the form of counter-irritation employed have been beneficial is doubtless true.

But is not this form of suggestion and counter-irritation rather too expensive for most patients?

FREDERICK PETERSON.

#### THE ANTITOXINE TREATMENT OF DIPHTHERIA.

285 LOOMIS ST., CHICAGO, June 24, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In view of the discussion now going on in the *Journal*, of which I have been three years a reader and subscriber, I frankly indorse the views of Dr. Winters in regard to antitoxine in diphtheria. Of one case I must write in terms of strong condemnation. The facts are as follows: I was called to see a boy, eight years old, pulse rapid, temperature 105°, and the laryngeal appearance quasi-diphtheritic. I began the ordinary treatment, in which quinine, carbolic acid, and iron formed chief parts. The result next morning was very satisfactory; all alarming symptoms were decidedly not much in evidence. Some time in the evening of this *better* day our antitoxine friends raided the house and began their injections *à l'outrance*. They did not inform me, I need scarcely say; but, like birds of evil omen, they swooped down on a defenseless widow and daughters, and injected mightily, nay, as the sequel proved, mortally. Need I express an opinion after this, on the discovery, or at least its manipulators? W. J. NOLAN, M. D.

### Proceedings of Societies.

#### SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 6, 1896.

The President, Dr. R. C. NEWTON, in the Chair.

**Nævus Verrucosus.**—Dr. GEORGE T. JACKSON presented a picture of a case of *nævus verrucosus* occurring in a mulatto woman. The disease had begun in

childhood, and had gradually grown worse until she had reached the twenty-first or twenty-second year. It had been a benign growth, and also a deformity. It could be removed by curetting, by the scissors, or by electrolysis. This growth was remarkable for its distribution and size, occupying the upper fourth of the right side of the body, and extending down upon the right arm to below the elbow.

Dr. A. RUPP asked whether it was considered neurotic or microbic by dermatologists.

Dr. JACKSON stated that it was probably neurotic. It belonged to the same class as the ordinary pigmentary mole. A part of the case pictured was pigmentary, a part fibrous, and a part like papillomatous growths. It was only on one side. There was also a patch over the umbilicus on the same side.

**Appendicitis; Multiple Operations.**—Dr. CHARLES J. PROBEN presented a specimen of an appendix removed from one of his patients. The woman had come to him suffering from reflex gastro-intestinal derangements and symptoms due to proclivencia uteri. The uterus had been prolapsed in the second degree, for which he had performed colporrhaphy, perineorrhaphy, and celiotomy; after doing the former, he had opened the abdomen, having previously examined in order to determine the condition of the appendix, which he had distinctly palpated and found to be thickened and tender; in other words, a catarrhal appendicitis, with no symptoms but local tenderness. After doing double oophorectomy, he had sought the appendix, and found it to be exactly where he had located it by palpation—with thickened walls, and firm and rigid, of the diameter of an ordinary lead pencil. As it had been impossible to invert it, the omentum had been ligated, the peritoneal surfaces dissected off, the appendix cut off and ligated, and the peritoneal surfaces coaptated by catgut sutures. Hysterorrhaphy had been performed in order to anchor the uterus with closure of the abdominal walls. All these operations had been performed at one sitting; the patient had made an uneventful recovery, leaving the hospital at the end of the fourth week.

Dr. RUPP asked why the appendix had been removed.

Dr. PROBEN stated that the appendix had been removed not for symptoms, but because it had been diseased, and might in future give trouble. It could not be inverted, because there had been a stricture about the middle which had prevented it; consequently, excision had seemed preferable. He would not recommend laparotomy for catarrhal appendicitis, but, if performing it, he would search for the appendix, and if it was diseased remove or invert it, as the condition permitted.

(To be concluded.)

### Miscellany.

#### Borax for Preventing Rust on Surgical Instruments.

—In the *Presse médicale* for June 6th M. Marechal says that borax solution will prevent the accumulation of rust on surgical instruments, such as bistouries, scissors, needles, and forceps. They may be allowed, he says, to remain in a two-per-cent. solution of sodium borate for a year or two, and when they are withdrawn they will be found to be perfectly intact.



**The American Pædiatric Society's Collective Investigation into the Use of Antitoxine in the Treatment of Diphtheria in Private Practice.**—The following report was presented at the eighth annual meeting, in Montreal, Canada, on May 26, 1896:

This subject was chosen by the officers of the society for its eighth annual meeting, with the belief that a large amount of valuable experience not otherwise available might in this way be reached and collated. It was also believed that a more trustworthy estimate of the value of the serum treatment of diphtheria might thus be obtained than by statistics taken from hospital practice. There are very few hospitals in America that receive diphtheria patients, and the conditions under which patients are admitted to hospitals and their surroundings while there are so different from those of private practice that the measure of success in hospital cases can not be taken as an index of the results which have been obtained upon this side of the Atlantic with the new treatment.

In order, therefore, to obtain an expression of opinion from American physicians as to the serum treatment, after what had been, with most of them, their first year's experience, a circular letter was prepared and issued by the committee early in April. This was distributed through the members of the society as widely as could be done during the time allowed. An attempt was made to reach as many physicians as possible who had had experience with the remedy.

The first surprise of the committee was in learning how very widely the serum treatment had been employed, especially in the Eastern and mid-Western States. With more time, the number of cases collected might easily have been doubled and perhaps trebled; but enough reports have come in to enable one to see what opinion was held on the 1st of May, 1896, by American physicians who had used this remedy.

The circular letter asked for information upon the following points: Age; previous condition; duration of disease when the first injection was made; the number of injections; the extent of the membrane—tonsils, nose, pharynx, and larynx; whether or not the diagnosis was confirmed by culture; complications or sequelæ, viz., pneumonia, nephritis, sepsis, paralysis; the result; and remarks, including other treatment employed, the preparation of antitoxine used, and general impression drawn from the cases.

Reports were returned from 615 different physicians, with 3,628 cases. Of these, 244 cases have been excluded from our statistical tables. These were cases in which the disease was said to have been confined to the tonsils and the diagnosis not confirmed by culture, and therefore open to question. A few cases were reported in such doubtful terms as to leave the diagnosis uncertain. The figures herewith given are therefore made up from cases in which the diagnosis was confirmed by culture (embracing about two thirds of the whole number) and others giving pretty clear evidence of diphtheria, either in the fact that they had been contracted from other undoubted cases, or where the membrane had invaded other parts besides the tonsils, such as the palate, pharynx, nose, or larynx. It is possible that among the latter we have admitted some streptococcus cases, but the number of such is certainly very small. There are left, then, of these cases, 3,384 for analysis. These have been observed in the practice of 613 physicians from 114 cities and towns, in fifteen different States, the District of Columbia, and the Dominion of Canada.

In the general opinion of the reporters the type of diphtheria during the past year has not differed materially from that seen in previous years, so that it has been average diphtheria which has been treated. If there is any difference in the severity of the cases included in these reports from those of average diphtheria, it is that they embrace a rather larger proportion of very bad cases than are usually brought together in statistics. The cases, according to the extent of the membrane, are grouped as follows: In 593 the tonsils alone were involved. In 1,397 the tonsils and pharynx, the tonsils and nose, the pharynx and nose, or all three were affected. In 1,256 cases the larynx was affected either alone or with the tonsils, pharynx, and nose, one or all. In many instances the statement is made by the reporters that the serum was resorted to only when the condition of the patient had become alarmingly worse under ordinary methods of treatment. This is shown by the unusually large number of cases in which injections were made late in the disease. Again, many physicians being as yet in some dread of the unfavorable effects of the serum have hesitated to use it in mild cases and have given it only in those which from the onset gave evidence of being of a severe type. The expense of the serum has unquestionably deterred many from employing it in mild cases. These facts, it is believed, will more than outweigh the bias of any antitoxine enthusiasts by including many mild cases which would have recovered under any treatment. It will, however, be remembered that tonsillar cases not confirmed by culture have not been included.

Only two reports embracing a series of over 100 cases have been received, most of the observers having sent in from five to twenty cases, although there are many reports of single cases, particularly of single fatal ones.

In addition to this material which has come in response to the circular, there have been placed at the disposal of the committee by the courtesy of Dr. H. M. Biggs, 942 cases treated in the patients' homes in the tenements of New York. Of these, 856 were injected by the corps of inspectors of the New York health board, upon the request of the attending physician, and eighty-six others were treated by physicians receiving free antitoxine from the health board. In the first group the diagnosis of diphtheria was confirmed by culture in every case, and in all of the latter except twenty-six; in these the diagnosis rested upon extensive membranous deposits or laryngeal invasion. The cases of the New York health board were of a more than ordinarily severe type, 485, or more than fifty per cent. of the patients, being reported as being in bad condition at the time of injection; to mild cases the inspectors were not often called. Further, an unusually large number of them (thirty-eight per cent.) were injected on or after the fourth day of the disease. In 182 of these cases only the tonsils were affected; in 466 the tonsils with the pharynx or nose, the pharynx and nose, or all three; in 294 the larynx was invaded either with or without disease of the tonsils, nose or pharynx.

Through the courtesy of Dr. Biggs the committee is able to include also a partial report upon 1,468 cases from Chicago, treated in the patients' homes in that city by a corps of inspectors of the health department. It was the custom in Chicago to send an inspector to every tenement house case reported, and to administer the serum unless it was refused by the parents. These cases were therefore treated much earlier and the re-



sults were correspondingly better than were obtained in New York, although the serum used was the same in both cities, viz., that of the New York health board.

THE RESULT AS INFLUENCED BY THE TIME OF IN-

JECTION.—In Table I are given the results obtained in these three different groups of cases, classified according to the day on which they received the first injection of serum antitoxine.

TABLE I.—*Day of Injection and Result.*

	INJECTED ON 1ST DAY.			INJECTED ON 2D DAY.			INJECTED ON 3D DAY.			INJECTED ON 4TH DAY.			INJECTED ON OR AFTER 5TH DAY.			DAY OF INJECTION UNKNOWN.			TOTALS.		
	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.
The committee's report..	764	38	4.9	1,055	89	8.3	620	79	12.7	336	77	22.9	390	152	38.9	215	15	7.0	3,384	450	13.0
New York Health Board..	126	11	8.7	215	26	12.0	228	37	16.6	153	32	20.9	203	59	29.0	17	4	23.7	912	169	17.8
Chicago Health Board...	106	0	0.0	336	5	1.5	660	18	2.7	269	38	14.1	97	33	34.0	0	0	0.0	1,468	94	6.4
Totals .....	996	49	4.9	1,616	120	7.4	1,058	134	8.8	758	147	20.7	690	244	35.3	232	19	8.2	5,794	713	12.3

The grand total gives 5,794 cases with 713 deaths, or a mortality of 12.3 per cent., including every case returned; but the reports show that 218 cases were moribund at the time of injection or died within twenty-four hours of the first injection. Should these be excluded there would remain 5,576 cases (in which the serum may be said to have had a chance) with a mortality of 8.8 per cent.

Of the 4,120 cases of injection during the first three days there were 303 deaths—a mortality of 7.3 per cent., including every case returned. If from these we deduct the cases in which the patients were moribund at the time of injection, or died within twenty-four hours, we have 4,013 cases, with a mortality of 4.8 per cent. Behring's original contention, that if patients were injected on the first or second day the mortality would not be five per cent., is more than substantiated by these figures. The good results obtained in third-day injections were a great surprise to your committee. But after three days have passed the mortality rises rapidly, and does not differ materially from that of ordinary diphtheria statistics. Our figures emphasize the statement, so often made, that relatively little benefit is seen from antitoxine after three days; however, it must be said that striking improvement has in some cases been seen even when the serum has been injected as late as the fifth or sixth day. The duration of the disease, therefore, is no contraindication to its use.

THE INFLUENCE OF BACTERIOLOGICAL DIAGNOSIS UPON THE STATISTICS.—This is shown in Table II.

In the cases in which the diagnosis was not confirmed by a bacteriological examination the mortality is thus five per cent. higher than in the bacteriological cases. This difference is to be explained by two facts: first, as already stated, that we have excluded from our

reports all tonsillar cases (and hence most of the very mild ones) not confirmed by bacteriological examinations; and secondly, by the fact that this group of cases comprises those treated in the country where physicians have hesitated to use antitoxine unless the type of the disease was a grave one, and where also a large proportion of the injections were made later than in the cities. However, should we leave out the moribund cases, the mortality is but 9.6 per cent., which differs but slightly from that of the cases confirmed by bacteriological diagnosis.

TABLE II.—*Diagnosis Confirmed by Bacteriological Examination.*

	Cases.	Deaths.	Mortality per cent.
Committee's reports .....	2,453	302	12.3
New York Board of Health .....	916	160	16.9
Chicago Board of Health .....	1,468	94	6.4
Totals .....	4,837	556	11.4
(Excluding 145 cases which were moribund or which died in 24 hours) .....			8.7

*Diagnosis from Clinical Evidence Only.*

	Cases.	Deaths.	Mortality per cent.
Committee's reports .....	931	148	15.7
New York Board of Health .....	26	9	34.6
Totals .....	957	157	16.3
(Excluding 72 cases of patients either moribund or dying in twenty-four hours) .....			9.6

In our subsequent statistics we shall consider together all the cases bacteriologically confirmed and otherwise, as the statistics are not materially altered by this grouping.

THE RESULTS AS MODIFIED BY THE AGE OF THE PATIENTS.—Unfortunately the ages have not been fur-

TABLE III.—*Age and Result of Treatment.*

	0 TO 2 YEARS.			2 TO 5 YEARS.			5 TO 10 YEARS.			10 TO 15 YEARS.			15 TO 20 YEARS.			20 YEARS AND OVER.		
	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.
Committee's report .....	631	137	21.7	1,276	175	13.7	883	108	12.2	276	19	6.8	112	4	3.6	214	9	4.2
New York Health Board .....	236	65	27.5	466	83	17.8	178	21	11.2	29	0	0.0	11	0	0.0	22	0	0.0
Totals .....	867	202	23.3	1,742	258	14.7	1,061	129	12.1	305	19	6.2	123	4	3.2	236	9	3.8
Moribund .....	43			59			59			9			0			4		
Mortality, excluding moribund cases .....			19.2			13.3			8.7			3.3			3.2			2.1

nished in the report of the Chicago cases, and we have therefore only the cases reported to the committee and those from the New York board of health for analysis. In Table III are shown the mortality of the different ages grouped separately.

The highest mortality is seen as in all reports to be in the cases of children under two years, but including all those returned, even those that were moribund when injected, the death-rate was but 23.3 per cent. (21.7 per cent. of the committee's cases), while if we exclude cases of patients moribund when injected or dying within the first twenty-four hours, it falls to 19.2 per cent.

After the second year there is noticed a steady decline in mortality up to adult life. In many of the reports previously published the statement has been made that no striking improvement in results was observed in cases of adults treated by the serum. Our figures strongly contradict this opinion. In 359 cases of persons over fifteen years old, which were returned, there were but thirteen deaths. That the reader may judge for himself how far antitoxine is to be held responsible for the result, a brief summary of these thirteen cases is appended.

Case I.—Fifteen years old; injected on the fourth day; membrane covering tonsils and pharynx; profoundly septic, sinking rapidly when injected; died in two hours. "My only death in seventeen cases" (Jones, Gloucester, Mass.).

Case II.—Forty-four years old; injected on the fourth day; membrane on the tonsils and pharynx; in bad condition; died three hours after injection. The tonsils had been previously incised, the early diagnosis having been quinsy.

Case III.—Thirty-one years old; injected on the sixth day; membrane on the tonsils, nose, pharynx, and larynx; intubation; sepsis; in bad condition; lived eight hours after injection.

Case IV.—Thirty-five years old; injected on the fifth day; membrane on the pharynx and nose (?); in bad condition; septic; died in twelve hours.

Case V.—Sixty years old; in bad condition; had serious mitral regurgitation; injected on the fourth day; membrane covering tonsils, pharynx, and larynx; died from heart failure on following day.

Case VI.—Sixty years old; "kidney trouble for years;" injected on the third day; very extensive membrane, covering tonsils, pharynx and nose; profound sepsis; in bad condition; died suddenly on the day after injection.

Case VII.—Seventeen years old; in bad condition; convalescing from measles; enormous adenopathy; profound sepsis; exceedingly high temperature; membrane covering tonsils and nose; injected at the end of forty-eight hours; three injections, temporary improvement after each one; duration of life not given.

Case VIII.—Fifteen years old; in bad condition; injected on the ninth day; membrane covering tonsils, nose, pharynx, and larynx; no operation; enormous infiltration of the tissues of the neck; nephritis; sepsis; lived four days and died of sepsis.

Case IX.—Twenty years old; injected on the third day; membrane upon the tonsils, nose, pharynx, and larynx; "a stubborn patient who got up before he was allowed, and died suddenly after it."

Case X.—Twenty-five years old; injected on the fifth day; membrane covering both tonsils, entire pharynx, and completely occluding nose; nephritis and sepsis;

throat cleared off entirely; died suddenly on the fourteenth day from cardiac paralysis.

Case XI.—Nineteen years old; injected on the fifth day; membrane upon the tonsils and pharynx; profound sepsis; duration of life unknown.

Case XII.—Twenty-two years old; injected on the fourth day; membrane on the tonsils and gums; sepsis; died on the sixth day.

Case XIII.—The well-known Brooklyn case, reported in 1895. Girl, sixteen years old, who died suddenly ten minutes after injection.

Such are the cases of adults whom antitoxine failed to cure. Four of them were moribund at the time of injection, no one of them living over twelve hours. Two, both sixty years old, were already crippled by previous organic disease, one of the heart, and the other of the kidneys. In the measles case there was undoubted evidence of streptococcus septicæmia. Only two of them were injected as early as the third day; three of them on the fifth day; and one on the ninth day. Omitting the four moribund cases, the mortality of 355 cases of adults treated with the serum is 2.5 per cent.

PARALYSIS.—Reliable data upon this point and those hereafter to be mentioned are to be had only from the 3,384 reports returned to the committee. Of these, paralytic sequelæ appeared in 328 cases, 9.7 per cent. Of the 2,934 cases of recovery, paralysis was present in 276, or 9.4 per cent. Of the 450 cases in which the patients died, paralysis was noted in fifty-two, or 11.4 per cent.

The variety of the paralysis and the date of injection are shown in the following table:

TABLE IV.—Variety of Paralysis and the Day of Injection.

	Cases.	DAY OF INJECTION.					Unknown.
		1st day.	2d day.	3d day.	4th day.	5th day.	
<i>Recovery Cases</i>							
Paralysis mentioned (variety not specified) . . . . .	132	8	32	32	19	16	23
Throat only (aphonia, nasal voice, or regurgitation) . . . . .	114	16	21	25	11	16	24
Extremities . . . . .	14	3	5	2	..	3	1
Ocular . . . . .	11	..	4	3	1	2	1
General (multiple neuritis) . . . . .	4	..	1	2	1	..	..
Sterno-mastoid . . . . .	1	..	1	..	..	..	..
<i>Fatal Cases.</i>							
Paralysis mentioned (variety not specified) . . . . .	9	..	3	2	1	2	1
*Cardiac, late after throat clear (in four of them throat also) . . . . .	32	1	2	8	9	8	4
Throat only . . . . .	6	..	2	..	..	..	1
General late . . . . .	4	..	1	..	1	2	..
Muscles of respiration . . . . .	1	..	1	..	..	..	..
Totals . . . . .	328	28	73	76	43	49	59

\* Cases of heart failure occurring at the height of the disease have not been included here, although they are mentioned among the cases of cardiac paralysis in the table of fatal cases.

Observations of some of the individual cases are interesting, particularly those of cardiac paralysis. It is twice stated that the child had gotten up and walked out of the house, where it was found dead. Twice death occurred after sitting up suddenly; once, on jumping from one bed into another. One patient of twenty years got up contrary to orders and died soon afterward. Another patient was apparently well until he indulged in

a large quantity of cake and candy, soon after which cardiac symptoms developed, and he died shortly. One case was that of a woman sixty years old, who had serious organic cardiac disease.

It is difficult from these statistics to state what protective power the serum may have over the nerve cells and fibres. Apparently this is not great unless the injections are made early in the disease, and even then in severe cases the amount of damage done to these tissues in twenty-four hours may be very great, even irreparable. Time is not the only element in estimating the effect of the diphtheria toxins.

Great discrepancy exists in the statements made regarding the frequency of paralytic sequelæ after diphtheria. In a series of 1,000 cases reported by Lennox Browne, paralytic sequelæ were present in fourteen per cent. In 2,448 cases by Sanné, paralysis was noted in eleven per cent. In the series of cases here reported, the difference is slightly in favor of the antitoxine treatment, but paralysis is certainly frequent enough to show how extremely susceptible the nervous elements are to the diphtheria toxins. One thing is quite striking from a study of these cases, and that is the proportion of patients that have died from late cardiac paralysis. That very many of them would undoubtedly have succumbed earlier in the disease from suffocation (laryngeal cases) or diphtheritic toxæmia, had the serum not been employed, is beyond question. Although the serum is able to rescue the patients in even many such desperate cases, it can not overcome the effects of the toxins upon the cells which have occurred before it was injected.

**SEPSIS.**—Sepsis is stated to have been present in 362 of the 3,384 cases, or 10.7 per cent. It was present in 145, or thirty-three per cent., of the fatal cases. Some explanation is necessary for a correct appreciation of these figures. The majority of the reporters, it is plain from their remarks, have not distinguished between diphtheritic toxæmia and streptococcus sepsis. The former is certainly meant in the great majority of the cases. There is a very small proportion in which there is evidence of streptococcus sepsis. The six cases complicating measles and the five complicating scarlet fever, however, should possibly be included in this list.

**NEPHRITIS.**—The statements on this point are quite unsatisfactory. The reports state that nephritis was present 350 times, or in ten per cent. of the cases. On the one hand it must be stated that the diagnosis of nephritis rests in many cases simply upon the presence of albumin in the urine; but, on the other hand, it is true that in a large number of the cases, more than half, no examination of the urine is recorded as having been made, so that it is impossible to state with anything like approximate accuracy the frequency of nephritis in these cases. Of the 450 fatal cases, the presence of nephritis is mentioned without qualification or explanation in thirty-nine cases; these being usually put down also as septic, dying in the acute stage of the disease. There are fifteen fatal cases, however, in which the renal disease was stated as the cause of death. In no less than nine the nephritis occurred late in the disease, usually during the second or third week. In these fifteen cases the evidence of severe nephritis was conclusive, such symptoms being present as dropsy, suppression of urine, with coma or convulsions.

**BRONCHO-PNEUMONIA.**—Broncho-pneumonia is stated to have been present in 193 of the 3,384 cases, or 5.9 per cent., a remarkably small proportion when compared with hospital statistics. Among the patients that

recovered, broncho-pneumonia was noted 114 times, or in 3.8 per cent.; among the fatal cases, seventy-nine times, or in 17.5 per cent., but in only about one half of these was the pneumonia the cause of death. Of these, (thirty-seven were laryngeal cases operated upon late, ten were septic cases, and the pulmonary disease was coincident with the height of the diphtheritic process. In seven pneumonia was independent of both the above-mentioned conditions, occurring late in the disease in all but two.

**LARYNGEAL CASES.**—Of the 3,384 cases reported to the committee, the larynx is stated to have been involved in 1,256 cases, or 37.5 per cent. This proportion is somewhat higher than is usual, and is partly explained by the fact that several physicians have sent in the reports only of their laryngeal cases. These laryngeal cases occurred in the practice of 379 physicians.

In 691, or a little more than one half the number, no operation was done, and in this group there were 128 deaths. In forty-eight of them laryngeal obstruction was responsible for the fatal issue, operation being refused by the parents, or no reason for its being neglected having been given. In the eighty remaining fatal cases the patients died of other complications, and not from the laryngeal disease.

In the 563 cases, therefore, or 16.9 per cent. of the whole number, there was clinical evidence that the larynx was involved, and yet recovery took place without operation. In many of these cases the symptoms of stenosis were severe, and yet disappeared after injection without intubation. No one feature of the cases of diphtheria treated by antitoxine has excited more surprise among the physicians who have reported them than the prompt arrest, by the timely administration of the serum, of membrane which was rapidly spreading downward below the larynx. Such expressions abound in the reports as "wonderful," "marvelous," "prepared to do intubation, but at my next visit the patient was so much better it was unnecessary," "in all my experience with diphtheria have never seen anything like it before," "no unprejudiced mind could see such effects and not be convinced of the value of the serum," etc.

In establishing the value of the serum, nothing has been so convincing as the ability of antitoxine, properly administered, to check the rapid spreading of membrane downward in the respiratory tract, as is attested by the observations of more than 350 physicians who have sent in reports.

Turning now to the operative cases, we find the same remarkable effects of the antitoxine noticeable. Operations were done in 565 cases, or in 16.7 per cent. of the entire number reported. Intubation was performed 533 times with 138 deaths, or a mortality of 25.9 per cent. In the foregoing are included nine cases in which a secondary tracheotomy was done, with seven deaths. In thirty-two tracheotomy only was done, with twelve deaths, a mortality of 37.4 per cent. In the 565 operative cases, sixty-six patients were either moribund at the time of operation, or died within twenty-four hours after injection. Should these be deducted, there remain 499 operated upon by intubation or tracheotomy, with 84 deaths, a mortality of 16.9 per cent.

In the 2,819 not operated upon, there were 312 deaths, a mortality of 11.3 per cent. Deducting the moribund, or those dying within twenty-four hours after injection, the total mortality of all non-operative cases was 9.12 per cent.

Let us compare the results of intubation in cases



in which the serum was used with those obtained with this operation before the serum was introduced. Of 5,546 intubation cases in the practice of 212 physicians, collected by McNaughton and Madden (1892), the mortality was 69.5 per cent. Since that time statistics have improved materially by the general use (in and about New York, at least) of calomel fumigations. With this addition, the best results published (those of Brown) showed in 279 cases a mortality of 51.6 per cent.

Let us put beside the cases of McNaughton and Madden the 533 intubations with antitoxine, with 25.9 per cent. mortality. With Brown's personal cases let us compare those of the fourteen observers who have reported to the committee ten or more intubation operations in cases of patients injected with serum. These comprise 280 cases with sixty-five deaths, a mortality of 23.2 per cent. In both comparisons the mortality without the serum is more than twice as great as in the cases in which serum was used.

The reports of some individual observers concerning intubation with the serum are interesting:

Nell, New York: twenty-seven operations, with twenty-seven recoveries.

Rosenthal, Philadelphia: eighteen operations, with sixteen recoveries.

Booker, Baltimore: seventeen operations, with seventeen recoveries, including one aged ten months, and one seven and a half months.

Seward, New York: eight operations, with eight recoveries.

McNaughton, Brooklyn: "In my last seventy-two operations without serum, mortality 66.6 per cent.; in my first seventy-two operations with serum, mortality 33.3 per cent."

O'Dwyer, New York: "In my last 100 intubations, first seventy, without serum, mortality seventy-three per cent.; last thirty, with serum, mortality 33.3 per cent."

But even these figures do not adequately express the benefit of antitoxine in laryngeal cases. Witness the fact that over one half the laryngeal cases did not require operation at all. Formerly ten per cent. of recoveries was the record for laryngeal cases not operated upon. Surely, if it does nothing else, the serum saves at least double the number of patients with laryngeal diphtheria that have been saved by any other method of treatment.

The great preponderance of intubation over tracheotomy operations shows how much more highly the profession in this country esteems the former operation.

**A STUDY OF THE FATAL CASES.**—Of the 450 fatal cases in the committee's report, 229 of the patients, or one half, received their first injection of the serum on or after the fourth day of the disease, and 152, or over one third of these, on or after the fifth day.

There were fifty-eight cases in which it was stated that the child was moribund at the time of injection, the serum being administered without the slightest expectation of benefit, but at the earnest solicitation of the parents.

There remain 350 cases in which the cause of death could be pretty accurately determined by the reports. In these the patients died from the following causes, the most important cause being placed first:

Sepsis (including diphtheritic toxæmia) was the cause of death in 105 cases, in which sixteen patients had nephritis, four were intubated or tracheotomized, two, in laryngeal cases, were not operated upon, four had paralysis, one had pneumonia, and in one the fatal sepsis was attributed to a traumatic condition of the left knee.

Cardiac paralysis was the cause of death in fifty-three cases. Under this head are included cases of sudden heart failure occurring at the height of the disease (twenty-one in number) as well as those more commonly designated as heart paralysis, where death occurred suddenly after the throat cleared off. Of the latter there were thirty-two examples; four of these patients had throat paralysis, nineteen cases were septic, eight patients had nephritis, five were intubated, and one was tracheotomized.

Broncho-pneumonia was put down as the cause of death in fifty-four cases. In thirty-seven of these it followed laryngeal diphtheria; of these patients, twenty-two were intubated and four tracheotomized; two had nephritis; nine cases were septic. Broncho-pneumonia and sepsis were the causes of death in ten cases, in which three patients had nephritis and one general paralysis. Broncho-pneumonia caused death in seven cases, apart from sepsis or laryngeal diphtheria; in these, only one patient had nephritis; one died from heart failure; and in five pneumonia came on late in the disease.

Laryngeal diphtheria without operation caused death in forty-eight cases. In some of these the operation was refused by the parents, in others it was neglected by the physician, the patients dying of asphyxia; three of these patients had nephritis, four cases were septic, two patients had pneumonia, and one had sepsis and nephritis.

Diphtheritic tracheitis or bronchitis caused death in eleven cases; all of these patients were intubated, and in two there was evidence of the existence of membrane in the bronchi before operation. There were thirty-three other cases in which death followed laryngeal diphtheria without the supervention of pneumonia. It is highly probable that in some of these death was due to membranous tracheitis or bronchitis. All of the patients were operated upon; ten were septic, two had paralysis, and one had nephritis.

Sudden obstruction of the intubation tube was the cause of death in three other laryngeal cases.

The tube was coughed up in three cases, fatal asphyxia occurring before the physician could be summoned.

Died on the table during tracheotomy, one patient.

Nephritis was the cause of death in fifteen cases; seven of these were septic, and three patients had been intubated.

General paralysis was the cause of death in five cases; in all probably the pneumogastric was involved.

Paralysis of the respiratory muscles produced death in one case, one of laryngeal diphtheria, in which intubation was performed, which was complicated by broncho-pneumonia.

Measles associated with diphtheria produced death in six cases; five of these were laryngeal and the patients were intubated; in two there was pneumonia, and in two sepsis. Diphtheria developed during the height of the measles or immediately followed it.

Scarlet fever with diphtheria was the cause of death in six cases; in three of these there were broncho-pneumonia, nephritis, and sepsis; in two scarlet fever preceded diphtheria, and in one of these there was sepsis with gangrene of the tonsils. In the sixth case the patient died of scarlet fever, which developed during convalescence from the diphtheria.

Gangrene of the cervical glands or cellular tissue of the neck was the cause of death in two cases associated with profound general sepsis.

Endocarditis caused death in one case, nineteen days after the diphtheria.

Diphtheritic inflammation of the tracheal wound with sepsis caused death in one case.



*General tuberculosis*, five weeks after diphtheria, was assigned as the cause of death in one case.

*Exhaustion* was the cause of death in three cases, one a protracted case, another complicated by pneumonia and sepsis, one by nephritis.

*Convulsions* were the cause of death in three cases apart from disease of the kidneys. In one, the well-known Brooklyn case, the girl died in ten minutes after the injection; in another, twenty-four hours after injection; in the third the particulars were not given.

*Meningitis* was assigned as the cause of death in one case.

**THE KIND OF ANTITOXINE USED.**—They are given in the order of frequency with which they have been used. First, the serum prepared by the New York board of health; second, Behring's; third, Gibier's; \* fourth, Mulford's; fifth, Aronson's; sixth, Roux's. In addition a large number of cases are reported as having been treated by the serum prepared by the health boards of different cities—Brooklyn, Newark, Rochester, Pittsburgh, etc. The largest number of cases have been treated by the serum prepared by the New York health board, a very large number by Behring's serum, all others being relatively in small numbers.

**DOSE AND NUMBER OF INJECTIONS.**—In the great majority of cases but one injection is reported. In very severe ones two and three have been given. The largest amount is in a case by Weimer (Chicago), who gave eighteen injections of Behring's serum in a laryngeal case in a child thirteen years old. Another instance of ten injections is reported with no unfavorable symptoms.

As a rule the dose has been smaller in antitoxine units than is now considered advisable, particularly in many of the laryngeal cases and others of injection later than the second day.

**CASES OF INJECTION REASONABLY EARLY (DURING THE FIRST THREE DAYS) IN WHICH ANTITOXINE IS SAID TO HAVE PRODUCED NO EFFECT, THE DISEASE ENDING FATAU.**—These cases are nineteen in number. Brief reports are introduced that the reader may judge to what degree they may be regarded as a test of the serum treatment. In our statistical tables all of them have been included among the fatal cases.

In Cases I and II the cultures were reported negative. Case I, by Gallagher, New York: Child, eighteen months old; septic; although no eruption was present, the reporter was "inclined on reflection to regard this case as one of scarlatinal sore throat."

Case II, by Potter, Buffalo: Male, fourteen months old; two cultures made, but no Loeffler bacilli found; membrane in the nose and pharynx. Injected on the third day one dose of Behring's serum No. 1. No improvement; death from sepsis. "Probably pseudo-diphtheria" (I. H. P.).

In Cases III to IX no cultures were made.

Case III, by Tefft, New Rochelle: Seven years old; injected after eighteen hours' illness two injections of Behring's No. 2 serum; membrane on the tonsils, pharynx, and nose; no effect observed from injections, patient dying on the third day.

Case IV, by Tefft: Male, four years old; membrane

on the tonsils and pharynx; injected after thirty-six hours' illness with Behring's No. 2; died on the third day; no noticeable effect from the injection.

Case V, by Tefft: Six years old; membrane on the tonsils, nose, and pharynx; septic; injected after thirty-six hours' illness three injections of Behring's No. 2. "Saw no effect from the injections, the disease going steadily on to a fatal termination."

Case VI, by Cameron, Montreal: Two years and a half old; fifty hours ill; membrane on the tonsils, nose, and pharynx; septic; no improvement noticed, and child died twenty hours after injection.

Case VII, by Baker, Newtonville, Mass.: Three years old; laryngeal diphtheria; injected on the third day 10 c. c. Roux's serum; cyanosis; intubation; temperature 103° F., and continued high until death in eighteen hours after operation; injections had no effect.

Case VIII, by Anderson, New York: Three years old; injected after three hours' illness; membrane on the tonsils, nose, and pharynx; one injection, New York health board antitoxine. "A case of malignant diphtheria, full duration twenty-four hours."

Case IX, by McLain, Washington: Four years old; twelve hours sick; membrane on the pharynx and larynx; two injections; no operation; first injection early in the morning, the other early in the afternoon; died the same day; no change in the condition; antitoxine had no apparent effect.

In Cases X to XIII diphtheria complicated measles, all reported by W. T. Alexander, New York. Disease confined to the larynx in all; in three the stenosis developed during measles, and in one while the patient was convalescing from measles; diagnosis confirmed by culture in every case, and in all intubation performed. Antitoxine seemed to have no effect, the cases going on to a fatal termination; all received their injections within twenty-four hours after the laryngeal symptoms appeared.

In three cases—XIV to XVI—the type of the disease was malignant from the outset.

Case XIV, by Lloyd, Philadelphia: Fifteen months old; injected after thirty-six hours' illness; diagnosis confirmed by culture; membrane covered the tonsils, pharynx, nose, and larynx; intubation; sepsis; death on the fifth day. Although antitoxine was used as promptly as possible no perceptible effect noticed. One injection, Behring's No. 3, was given.

Case XV, by Wert, Mount Vernon, N. Y.: Eighteen months old; injected on the third day; diagnosis confirmed by culture; membrane on the tonsils and pharynx. "Very intense type of the disease." Antitoxine could not be procured before the third day; Gibier's serum used. "Died suddenly in apparent convulsions about ten hours after injection; urine not examined; very little passed."

Case XVI, by Ingraham: Six years old; membrane covered the tonsils, pharynx, and larynx; diagnosis confirmed by culture; pneumonia present; condition very bad; injected after two and a half days' illness; three injections of Behring's serum; no benefit noticed.

Case XVII, by Johnson, Buffalo: Three years old; twelve hours ill; case septic from the start; membrane on the tonsils, pharynx, and larynx; diagnosis confirmed by culture. "Antitoxine apparently had very little effect."

Case XVIII, by Baker, Newtonville, Mass.: Two years and a half old; twenty hours ill; disease confined to larynx; diagnosis confirmed by culture; one injection

\* It is worthy of note that in the tests made by the State Board of Health of Massachusetts, published under date of April 6, 1896, this serum was found far below the standard as labeled upon the bottle; thus, a package marked to contain 2,500 units, by test was found to contain fewer than 700. All the other varieties of serum tested were found essentially up to the standard.

of Gibier's serum; intubation. "Was doing well a few minutes before death, when child got up in its crib, changed color, and died almost immediately." Death attributed to "sudden heart failure; found no obstruction of the tube."

CASE XIX, by Story, Washington: Five years old; in fair condition; thirty-six hours ill; diagnosis confirmed by culture; membrane on the tonsils, pharynx, and larynx; one injection of United States Marine-Hospital antitoxine; injection produced no effect.

CASES IN WHICH UNFAVORABLE SYMPTOMS WERE, MIGHT HAVE BEEN, OR WERE BELIEVED TO HAVE BEEN, DUE TO ANTITOXINE INJECTIONS.—Only three cases reported to the committee could by any possibility be placed in this category. All of the details furnished by the reporters are reproduced:

CASE I, by Kortright, Brooklyn: Sudden death in convulsions ten minutes after injection. This case is the already well-known Valentine case, occurring in Brooklyn in the spring of 1895. The principal points were as follows: A girl, sixteen years old; in good condition; tonsillar diphtheria; diagnosis confirmed by culture; injected on the first day with 10 c. c. Behring's serum; died in convulsions ten minutes later.

CASE II, by Kerley, New York: Fairly healthy boy, two years and a half old; membrane on tonsils, pharynx, and in nose. Diagnosis confirmed by culture; injected on the morning of the fourth day with 10 c. c. (1,000 units) New York health board serum; temperature at time of injection 100.1° F.; no sepsis, and child apparently not very sick; urine free from albumin. Distinctly worse after injection; in ten hours temperature rose to 103° F.; urine albuminous; throat cleared off rapidly, but marked prostration and great anæmia, with irregular fluctuating temperature, continued, and death from exhaustion with heart failure four days after the use of the serum.

CASE III, by Eynon, New York: Male, three years and a half old; diagnosis confirmed by culture; two days ill; membrane on tonsils and in nose; two injections New York health board serum. "A rapid nephritis developed after the second injection, causing coma, convulsions, and death twenty hours after the second injection." In response to an inquiry for further particulars the following was received: "The case seemed a mild one, but the injection was given one afternoon and repeated the following afternoon, about fifteen hundred units in all. The urine up to that time had not been examined. About fourteen or sixteen hours after the second injection unfavorable symptoms began to develop pointing to infection of the kidneys. The urine was found to be loaded with albumin. My impression at the time was that the antitoxine either produced, hastened, or intensified nephritis, thereby causing the fatal termination."

In regard to the three fatal cases just cited, Case I is wholly unexplained. In Case II the query arises, Did this sudden change hinge upon the injection of the serum, or was it one of those unexplained abrupt changes for the worse in a case apparently progressing favorably so often observed in diphtheria? As regards Case III, it will be seen from the letter that the evidence is not at all conclusive. All details available are given, and the reader may draw his own conclusions.

CLINICAL COMMENTS.—The following are selected from hundreds which have been received, and may be taken fairly to represent the sentiments of the physicians who have sent in reports:

Dr. Douglas H. Stewart, New York, sends reports of four cases, all desperate ones, and all "presumably fatal under any other form of treatment." Very extensive membrane in all; larynx involved in three; in one neglected case in a child three years old, injected upon the fifth day; the membrane covered the tonsils, nose, pharynx, and larynx. Broncho-pneumonia, nephritis, and sepsis all present. Temperature 107° F. at the time of the first injection. Prostration so great that he dared not attempt intubation. Believes that this case would certainly have been fatal in a few hours without antitoxine. Perfect recovery.

In another case, of a child, three years old, membrane first discovered in the left ear, next morning seen upon the tonsils, and spread in a few hours over the pharynx into the larynx and trachea. Intubation necessary in a few hours; had never seen membrane spread so rapidly as in this child. Urine albuminous; membrane subsequently expelled from larynx and trachea in large casts, with profuse bloody expectoration. Complete recovery on the ninth day. The physician describes this as "the very worst case of diphtheria that has ever come under my notice." Five thousand four hundred antitoxine units were given in four injections. He remarks: "My experiences in the past have been so very unfortunate that the advocates of antiseptics or therapeutics were a constant surprise to me. It has been my fate to have the most desperate cases unloaded upon my shoulders. I had been forced into the belief that the profession was absolutely powerless in the presence of true diphtheria; have lost case after case with tube in the larynx and calomel fumigations at work. Previous to antitoxine my only hope had become centred in Nature and stimulants. In two years have not lost a single case, and surely I may be pardoned if I suffer from diphtheriophobia in a subacute form, and use antitoxine sometimes unnecessarily."

Dr. L. L. Danforth, New York, states that during his twenty-two years of practice in New York he has seen many fatal cases of diphtheria, had used all kinds of remedies, mainly those of the homœopathic school, and while he had as much confidence in the latter as in anything else, he had seen so many deaths during the year past that he "hailed with delight the advent of antitoxine, and determined to use it." Reports five cases, all of a severe type. "The result in every case had been marvelous. I would not dare to treat a case now without antitoxine."

Dr. H. W. Berg, New York, reporting fourteen cases, says: "I have not yet ceased to be surprised at the recovery of some of these cases, which, in the light of my former experience with diphtheria treated without antitoxine, seemed to be irretrievably lost."

Dr. George McNaughton, Brooklyn, reports seventy-two laryngeal cases, with twenty-four deaths; sixty-seven of these were intubated, with twenty-one deaths. He states that he has kept no records of cases other than laryngeal ones, as these seemed the best test of the serum treatment. He believes that if the serum is used early, very many cases will not need operation for the relief of stenosis. "I would urge the use of antitoxine in all cases of croup in any patient who has an exudation upon the pharynx; would not wait for bacteriological confirmation of diagnosis, for in so doing valuable time is lost." Has noticed that the tube is coughed up more frequently in injected cases, and believed this due to the fact that the swelling of the tissues subsides at an earlier date.



Dr. D. C. Moriarta, Saratoga, reporting four cases, says that the first was a malignant one and "I only used the remedy because I am health officer and was urged to do so, as the type of the disease was that from which I have seen recovery but once in eleven years." Boy, five years old, four days ill when injected; great prostration, rapid breathing, and he was "practically gone." Nares filled and tonsils and pharynx covered; severe nasal hemorrhage; cervical glands greatly swollen; heart's action very frequent and feeble; child unable to lie down. Behring's serum twenty cubic centimetres injected; in six hours evidently more comfortable; in eighteen hours decidedly improved; in twenty-four hours sitting up and feeling much better; in forty-eight hours all urgent symptoms gone and membrane loosening. Subsequently had nephritis which lasted six weeks, and multiple neuritis which persisted for three months, but ultimately recovered perfectly. "I send this report because it converted me. No unbiased person familiar with diphtheria could see such results as this and not feel there must be good in it."

Dr. F. M. Crandall, New York, sends report of a child seven years old. Membrane on the tonsils and in larynx, with croup for forty hours when antitoxine was injected and intubation done. Progress of the disease had been rapid; semi-stupor and eyes half open; very feeble rapid pulse; intense toxæmia; general cyanosis. Both cyanosis and dyspnoea persisted after intubation, showing clearly the presence of membrane below the tube. Case regarded as "absolutely hopeless." The first change was seen in the disappearance of toxæmia, with improvement in the pulse, clearness of the mind, etc.; later a change in the local condition; large masses of membrane were expelled from the larynx and trachea, necessitating frequent removals of the tube. Tube finally removed in a week with complete recovery.

Dr. Reynolds, of Baltimore, mentions a case showing the danger of relying too implicitly upon the bacteriological diagnosis. Male, three years. Culture reported only staphylococcus and streptococcus, consequently injection delayed until the fifth day, when membrane covered tonsils, nose, and pharynx. Child died two days later. A sister subsequently contracted the disease, received antitoxine on the third day and recovered. The reporter would not wholly rely upon the culture test for diagnosis.

**SUMMARY.**—(1) The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves as strongly in favor of the serum treatment, the great majority being enthusiastic in its advocacy.

(2) The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favorable reports must be excluded.

(3) The report includes the record of every case returned except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included.

(4) No new cases of sudden death immediately after injection have been returned.

(5) The number of cases of injection reasonably early in which the serum appeared not to influence the progress of the disease was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis; four cases of diphtheria complicating measles, and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of re-

covery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

(6) The number of cases in which the patients appeared to have been made worse by serum were three, and among these there is only one new case in which the result may fairly be attributed to the injection.

(7) The general mortality in the 5,794 cases reported was 12.3 per cent.; excluding the cases of patients moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

(8) The most striking improvement was seen in the cases of injection during the first three days. Of 4,120 such cases the mortality was 7.3 per cent.; excluding cases of persons moribund at the time of injection or dying within twenty-four hours, it was 4.8 per cent.

(9) The mortality of 1,448 cases of injection on or after the fourth day was twenty-seven per cent.

(10) The most convincing argument, and to the minds of the committee an absolutely unanswerable one, in favor of serum therapy is found in the results obtained in the 1,256 laryngeal cases (membranous croup). In one half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

(11) The proportion of cases of broncho-pneumonia—5.9 per cent.—is very small and in striking contrast to results published from hospital sources.

(12) As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

(13) There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

(14) The effect of the serum on the nervous system is less marked than upon any other part of the body; paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

The committee feels that this has been such a responsible task that it has thought best to state the principle which has guided it in making up the returns. While it has endeavored to present the favorable results with judicial fairness, it has also tried to give equal or even greater prominence to cases unfavorable to antitoxine.

In conclusion, the committee desires, in behalf of the society, to express its thanks to members of the profession who have co-operated so actively in this investigation, and to Dr. A. R. Guerard for the preparation of the statistical tables.

[Signed]

L. EMMETT HOLT, M. D.,	} Committee.
W. P. NORTHROP, M. D.,	
JOSEPH O'DWYER, M. D.,	
SAMUEL S. ADAMS, M. D.,	

The society voted to accept the report of the committee and after a full discussion it was decided to embody its conclusions in the following resolutions:

(1) Dose: For a child over two years old, the dose of antitoxine should be in all laryngeal cases with stenosis, and in all other severe cases, from 1,500 to 2,000

units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases in those over that age, the initial dose should be 1,000 units, to be repeated as above mentioned if necessary; a second dose is not usually required. The dose should always be estimated in antitoxine units and not in the amount of serum.

(2) Quality of antitoxine: The most concentrated strength of an absolutely reliable preparation.

(3) Time of administration: Antitoxine should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

The committee was appointed to continue its work for another year and was requested to issue another circular asking for the further co-operation of the profession, this circular to be sent out as soon as possible, in order that physicians might record their cases as they occurred through the coming year.

**The Action of Thyreiodine in Obesity.**—Dr. Grawitz (*Münchener medicinische Wochenschrift*, 1896, No. 14; *Deutsche Medizinische Zeitung*, June 15, 1896) relates the cases of two women who were treated with thyreiodine for obesity. In one of them the use of the remedy was continued for only three days, at the rate of fifteen grains a day. During this period the patient lost three kilogrammes in weight, and this, says the author, was all the more remarkable from the fact that she took milk, butter, white bread, and eggs freely, although restriction in the matter of these articles before the thyreiodine was used had brought about only a very trifling loss of weight. An increased excretion of nitrogenous matter was evident in this case—to the amount of about four hundred and seventy-five grains—so that a decided loss of weight could not fail to result. There was, however, no increase of the fluid excretions, and the urine contained neither albumin nor sugar.

The other patient took fifteen grains of thyreiodine daily for three weeks, without any restriction of her diet, and she, too, lost three kilogrammes in weight. When she discontinued the use of the remedy her reduction of weight persisted for a short time, but she soon began to regain her flesh. Her subjective condition was not affected, and her urine was free from both albumin and sugar.

**Jaundice and Hæmaturia due to Quinine.**—Dr. De Robertis (*Raccogliatore medico*; *Deutsche Medizinische Zeitung*, June 15, 1896) relates the case of a patient who, after having had two paroxysms of malarial fever, took twenty-five grains of quinine in the course of a forenoon, in order to avert a third paroxysm. Toward evening he had a severe chill followed by high fever, headache, and cyanosis of the lips, ears, and fingers. His urine was reddish-brown and contained a good deal of albumin, blood pigment, and renal epithelium. Quinine was detected in the urine. On the following day the temperature fell, jaundice set in, and the liver was somewhat swollen and tender. In the course of twenty-four hours the urine was normal again. Two days later, when the patient was free from fever and almost wholly restored, he took twelve grains of quinine hydrochloride, in three doses. After a few hours he had another chill followed by fever and severe general symptoms. The

urine had the same character as before, and on the following day there was pronounced jaundice. This, then, says the author, was a case of icterico-hæmaturic fever due to the use of quinine.

**Hysterical Persons and the X Rays.**—In the *Nouvelles Montpellier médical* for April 25th, Dr. P. Bosc remarks that in several recent articles on the Röntgen rays the opinion had been expressed that the curiosities of vision observed in the hysterical might perhaps be due to their perceiving these rays. With this in view, Dr. Bosc examined a girl, fifteen years old, who was affected with hemianæsthesia and astasia-abasia, but whose vision seemed normal. Between the Crookes's tube and the girl's eye he placed a broad screen of two thicknesses of black paper. The light was obtained with a Holtz-Carré static machine. Under these conditions, neither he himself nor the girl's mother could see anything. The patient, on the contrary, saw very clearly, and with each eye separately, a light which she said was "like a lamp." As long as the current was passing she saw distinctly; as soon as it was interrupted she could see nothing. At the time of making the interruption Dr. Bosc kept up a production of sparks, so that the girl did not know that he stopped the current. He remarks that it was a curious thing that the girl's perception of light varied with the luminous intensity of the cathode rays, the tube being the same, which would seem to show that, always for the same tube, the production of Röntgen rays was in direct proportion to that of cathode rays.

**Potassium Permanganate in the Treatment of Gonorrhœa.**—Dr. M. Möller (*Archiv für Dermatologie und Syphilis*, 1896, No. 1; *Centralblatt für die gesammte Therapie*, June, 1896) has treated a hundred cases of gonorrhœal urethritis with Janet's injections of potassium permanganate. Some of them were acute, and others were chronic. All the patients were going about. Before the treatment was begun, the following questions were always considered: Whether gonococci were present or not, whether the urethritis was anterior or posterior, whether collections of gonococci existed within the urethra or outside of it, and whether or not the case was suitable for the employment of Janet's method. Great care as to the strength of the solution is to be recommended; one may begin with a 1-to-5,000 or a 1-to-4,000 solution, and then proceed to one of 1 to 1,500 or 1 to 1,000, according to the reaction and the tolerance. A definitive cure does not always coincide with the disappearance of the gonococci, but if, after an observation period of three weeks, after errors of diet, after soundings, etc., still no gonococci are to be seen, a definitive cure may be taken for granted. The method is not painless; in acute posterior urethritis these irrigations are very painful and not infrequently give rise to hæmaturia. Indeed, there are patients who refuse to submit to the treatment. There are cases in which, even after from fifteen to forty irrigations with solutions increased to the strength of 1 to 1,000, gonorrhœa may still be found; on the other hand, the method succeeds in some cases in which all other treatment has failed. The patient should be acquainted with the possible consequences of the treatment—pain, hæmaturia, and cystitis, together with the chance of not being cured after all. As an abortive method, in the first three or four days of the disease, it is better than any other; after that it is not of so much value; in subacute and chronic cases it is superior to other methods; used without due care as to the strength of the solution, it is not free from danger.



## Lectures and Addresses.

### THE PRESIDENT'S ADDRESS DELIVERED BEFORE THE AMERICAN LARYNGOLOGICAL ASSOCIATION AT ITS EIGHTEENTH ANNUAL CONGRESS.

By W. H. DALY, M. D.,  
PITTSBURGH, PA.

GENTLEMEN: The replete programme before us for this congress, comprising as it does thirty-four papers, not including the theses of the candidates for membership, assures us that it is quite possible to have for our organization a congress of the first class in a city of the second class.

I am most happy to see so many of the fellows present, and especially so to be able, through your hearty co-operation, to present such an extended programme of interesting papers—a programme that has never been equaled in the history of our honored society, and one which demonstrates that the fellows of the American Laryngological Association will attend a congress in other than metropolitan cities. It also serves to admonish me to be brief in my remarks to you this morning, that we may enter at once upon the work before us, and endeavor to do it full justice by deservedly calm, dignified, and learned discussion, of which you are so capable.

I am scarcely old enough to indulge much in looking backward, but I can not refrain from doing so, just a little, and with much pardonable pride, when contemplating the value our specialty has been and is to the general practice of medicine and surgery, as also the value of our literature to that of the general science of medicine and art of surgery, and the eagerness with which the latter is sought after and studied by the profession.

These are pleasant reflections, especially to those of us who began the study and practice of this work over twenty years ago, amid the doubts, the indifference, and even the disapprobation of our best friends, the general practitioners. And it is only by the exalted character and high standard of excellence of the work done that their respect has at last been won, and I sincerely hope their appreciation will be maintained by our continued and most deserving industry.

Indeed, I was also a busy general practitioner when, over twenty years ago, I began the study of laryngology, and I have never ceased to be somewhat of a general practitioner since, and I don't intend ever to cease my interest in general medicine and its practice, believing that one can not be a good specialist in diseases of the nose, ear, and throat without large experience and knowledge of general medicine. And I do not think that any one should ever begin our specialty until he has been a general practitioner from five to ten years or more.

As a matter of fact, I never in any way announced myself as a specialist in diseases of the nose, ear, and throat, but an enormous amount of the work came to me through my writings upon these subjects, and is still coming, in these my years of riper experience, and I hope of better judgment.

There is to me the highest sense of pleasure in knowing the respect that laryngology now receives from medical men as well as the laity, and that most of our teachings have stood the crucial test of time and practical experience, and have proved so great an aid to general medical science and practice. Indeed, the aid rendered by the laryngoscope and rhinoscope in skilled hands is now so universally conceded that to speak of it is almost trite. And there has been such substantial acknowledgment on the part of those in general practice that the men who do this sort of work mostly have multiplied enormously in number, and are well and fully equipped to aid their fellow-practitioners in the diagnosis and cure of cases, the obscurities of which can be so often revealed and made plain by the skilled employment of laryngoscopy and rhinoscopy.

I began this work twenty years ago in Pittsburgh, almost alone; now I am surrounded by dozens of capable men. I began it when there was scarcely a laryngoscope or rhinoscope in use by the medical profession west of the Alleghany Mountains, and indeed many otherwise intelligent medical men in this city at that time doubted my ability to make intralaryngeal examinations or topical applications of medicine to diseased parts within the larynx, and were disposed to joke about such pretensions as being chimerical. Now, in our more advanced state of knowledge, this seems difficult to believe, but it is none the less true.

One of the earliest cases of importance here, which attracted the attention of the profession, was that of a patient who was being treated for pulmonary emphysema (a dilatation of the pulmonary air cells), which was submitted to me for laryngoscopic examination and diagnosis. I was fresh from my London and Vienna pupilage, and easily demonstrated to my colleagues that the pulmonary condition was entirely due, not primarily to pulmonary emphysema *per se*, but to laryngeal stenosis, preventing the outflow of inspired air from the lungs. The obstructive disease was of a specific type in the larynx, and the fibrous adhesive bands, adhering to the false vocal cords, could be plainly seen with the laryngoscope. The patient was operated upon first, as a precautionary measure, by doing tracheotomy, after which the fibrous adhesive bands were removed by intralaryngeal operations, the larynx dilated, and the patient entirely cured in six months; he increased in bodily weight from one hundred and twenty to one hundred and ninety-one pounds, and resumed his labor as a steel roller in a rolling mill.

This case presents nothing strange to us to-day, but

at that time not only was it strange, but the conditions revealed by the laryngoscope were most surprising and interesting to all who observed them, and the results were brilliant and successful in the highest degree. In short, it was a triumph for laryngology.

In the matter of distinguishing whether aphonia is due to inflammatory processes or functional derangement, the laryngoscope is a most indispensable instrument, as every one is aware.

The influence of nasal obstructions, adenoid growths of the pharynx, and chronic amygdalitis upon the health of children merits a word.

There are so many robust men and women in this city to-day, of whom I had the professional charge in former years as puny, chicken-breasted specimens of childhood, with nasal obstructions, adenoid growths, and chronic amygdalitis, that I have thought it not amiss to advert to the real and permanent benefits derived from treatment for their removal, the results in every instance of which are so worthy of our best admiration.

I was accosted a few days ago by a stalwart young man, who smilingly told me that he was one who was placed under my care twenty years ago as a delicate boy, who weighed but sixty pounds when fourteen years old. He told me he had nearly doubled his weight in the two years succeeding his treatment, which consisted of the clearing out and curing of the adenoids in his upper pharynx, and the curing of a chronic amygdalitis. He is now a leading amateur athlete.

The debt that general medical and surgical science and art owe to laryngology and rhinology, then, is so apparent and real that we must be pardoned for our expression of honest pride for the part this learned and pioneer society has taken to place and maintain it on the high plane it now occupies. Let us then go forward in the right direction, and especially endeavor to further reveal the obscurities that still surround ethmoidal and sphenoidal diseases.

We have among our number the men of broad mind and ability who have already done much in this direction. All honor to Bryan, Bosworth, Mackenzie, Wright, and others, who have accomplished so much to make these intricate and obscure diseases plainer and more amenable to proper treatment.

Before closing let me voice a sentiment that all of us so earnestly feel, and that is, all honor to Manuel Garcia, one of the fathers of the laryngoscope and laryngology. Many of us sat with him last August, in London, around the banquet table of the laryngological section of the British Medical Association, and observed with pleasure how lightly and blithely his ninety odd years sat upon his silvered head, "frosty, but kindly." And now, with bowed heads and sorrowing hearts, we also feel all honor to the name and memory of dear Dr. Wilhelm Meyer, of Copenhagen, Denmark, whose death, after ripe years full of honors and loving regard by his

profession, we justly mourn. He first taught us the presence of and cure for pharyngeal adenoids.

Shall we ever forget his fatherly wisdom and kindness to us in Copenhagen, in August, 1884? And now that all Christendom is uniting to erect a monument to his memory, let us at this meeting, one and all, give with a liberal hand toward its erection, thus showing in a practical way what every one has so honestly felt in his heart.

Now, dear friends and fellows of the American Laryngological Association, I bid you a hearty welcome to this busy and, we think, very attractive city.

We are but a small band of workers, who have come to unravel scientific questions in this busy hive of mechanical industry. That we will do our best in a most intelligent manner our past history guarantees. I am sure that at the close of this meeting you will all be pleased with the work that you have done.

As the rich plains of Italy were held out to the soldiers of France as an inviting field for their bravery and conquest, so you have in the more peaceful and gentle field of science of your specialty a programme here before you, prepared by your able fellows, that is a field rich in promise of interest, profit, and pleasure. So again I bid you thrice welcome.

And I now declare this the eighteenth annual congress of the American Laryngological Association open for work.

## Original Communications.

### THE FUTURE OF MEDICAL COLLEGES IN THE SMALLER CITIES OF THE UNITED STATES.\*

By DANIEL MORTON, M. D.,  
ST. JOSEPH, MO.

THERE are two marked principles that are governing the medical profession to-day, in dealing with the subject of medical education. They are as follows: First, a diploma should confer no right to practise medicine. Second, every student entering upon the study of medicine should have a thorough preliminary education. What effect will the enforcement of these principles have upon the smaller medical colleges of the Union? This is the question proposed for discussion in this paper.

A backward glance at the beginning of a movement and a little study of its subsequent progress will often enable one to forecast its future with a considerable degree of certainty.

In the early history of America, medical aid was often rendered by men who had never attended a medical college. Graduates from the mother country were not sufficient to supply the demand. The first school in America, the College of Medicine of Philadelphia,

\* Read before the Kansas State Medical Society, May 14, 1896, at Topeka, Kansas.

now the Medical Department of the University of Pennsylvania, was not founded until 1765.

From this institution was graduated, in 1768, Dr. John Archer with the degree of Bachelor of Medicine, the first medical degree ever conferred in America. In the same year in New York city was organized the Medical Department of King's College, now the College of Physicians and Surgeons, the Medical Department of Columbia University. It has been estimated by Dr. Noah Davis that at the time of the Declaration of Independence there were in the thirteen colonies three or four thousand practitioners of medicine supplying the three million inhabitants with medical aid. About four hundred only of these practitioners had received the degree of M. D. In 1810 there were five medical colleges in the United States. Students were apprenticed to a regular practitioner for two or four years, the degree of M. D. being conferred after attendance at two subsequent college terms. Some entered practice at the end of one college term, and some at the end of their apprenticeship without having attended college at all. And now medical colleges in America began to multiply with increasing rapidity as the years went on, until their number greatly exceeded the actual demands of the situation.

From 1840 to 1890 there was a perfect craze for establishing medical colleges, and the competition for students became so severe that entrance and graduation requirements were reduced to a minimum.

During the fifty years between 1830 and 1880 medical education in the United States failed to keep pace with the advance made in the same line of work in other countries. Although a vast quantity of knowledge had been accumulated since the beginning of the century, two years of instruction still remained the length of the medical course, just as it had been in 1810, and this too at a time when European countries were requiring four, five, and six years' study of their medical graduates. This statement should be modified by mentioning the adoption by the Chicago Medical College, in 1868, of a three years' graded course.

The diploma opened the door to practice; and as long as it did this, it remained a commodity to be first manufactured at the lowest possible cost by the manufacturer (the medical college), and then to be purchased in the open market by the consumer (the medical student) at the least outlay in money and time. At the end of our first century of existence Dr. Noah Davis thus describes the American medical educational system as it had grown up under the principle of giving to the diploma a licensing power. (See quotation at end of paper.)

Having now sketched the condition of affairs as they have existed in the past, we are prepared to appreciate the efforts made to correct the abuses which had grown up as a result of this "freest rivalry" among medical colleges.

All laws governing medical practice are based, first,

upon the recognition of the diploma as a legal license; and second, upon denying this right to the diploma, and requiring an examination of every applicant at the hands of a civil board of medical examiners.

The first-named law, known as the "Diploma law," gives the right of college supervision to the State Board of Health. This supervision is exercised by establishing a "Schedule of Minimum Requirements," which schedule requires all medical colleges, large or small, to make the course of lectures extend through a specified number of months, to furnish specified laboratory facilities, to furnish a specified amount of dissecting material to each student, etc.

In this way are the medical colleges made amenable to the civil authorities. With the teaching requirements thus laid down every college must comply to secure recognition of its diploma. About the year 1880, for the first time in the history of the country, the Illinois board, under the leadership of Dr. John H. Rauch, began to vigorously use this power. It published a series of reports that have been the basis of all subsequent work having for its object the legal control of medical practice in the United States. I can not enter into a detailed history of the good accomplished by the "Diploma law." Suffice it to say that its effect has been most salutary. In my own State it is this law which is in force, and it is executed by a board of fearless men who are doing a great work in checking the abuses which have so long run riot in our midst. The great flaw in it is the fact that it after all delegates the licensing power to the faculties of the medical colleges. This is not true of a law requiring every applicant for license to stand an examination conducted by a board of medical examiners. Let us not digress, however, but return to the minimum requirements and discuss the effect of the enforcement of some of them upon the smaller medical colleges, and the ability of the medical colleges to comply with others.

**PRELIMINARY EDUCATION.**—The great tendency of the profession to-day is to demand a thorough preliminary education of every student entering upon the study of medicine and to permit none to matriculate who do not have it. For many years any one who so desired could enter a medical college without regard to preliminary English education. Many matriculates had the merest rudiments of a common school education, and many more were lacking even in this. This statement can be easily substantiated by looking for a few minutes at the prescriptions on file in the drug stores, or by the revelations of one day's mail at the office of any State medical officer like that of the secretary of the board of health. Men who could not enter other callings in life because of their lack of education found the doors of medicine wide open, with no obstacles thrown in the way to those desiring to enter. Engineers, harness makers, hostlers, and men of like station in life desiring to become doctors were readily accommodated by medical colleges.



I would not cast a slur upon these occupations, for I believe that work is honorable in all, and laziness is a reproach wherever found. But no one has a right to assume the grave responsibilities of a physician's calling unless he has qualified himself to do so. Granting for argument's sake that there was at one time a warrant for such a custom, it is certainly true that that time has passed, never to return. The advance of science has been too great to be appreciated by one who can barely put himself in communication with the everyday affairs of life as published in the daily papers. What can such a man do with a scientific treatise on physiology or therapeutics, studies involving a presumption of knowledge of physics and chemistry and the ability to think and reason accurately, to properly observe phenomena, and to draw therefrom the proper conclusions? One must know addition and subtraction before one can solve problems in multiplication and division. On account of the uneducated students who flock to the medical colleges, the latter have, in some instances, established chairs for teaching Latin and elementary chemistry and physics. They thus convert themselves into a sort of medical-literary college, and I have wondered sometimes why they did not at the same time confer both the degree of M. D. and the degree of A. M. The uneducated student goes to the college in the smaller city or to the low grade one in the large city. There he often finds teachers as ignorant as he. I have known graduates of a medical school to become in a few months professors in their Alma Mater. When a high, uniform standard is established for preliminary education this class will be unable to measure up to it. They will then either give up the study of medicine and take a station in life commensurate with their attainments, or they will set about correcting the defects of their education so that they may, when this is done, enter a medical college.

Students who have received a good literary education seek a good medical college. Knowing what a good literary education is, they will not be content with a poor medical one. So that either way the knife cuts into the medical college of the small city. The uneducated student can not matriculate and the educated one will not. The result is inevitable—lessened attendance and lessened income. In Missouri the State board ruled out about a hundred students in the various colleges of the State because of lack of preliminary education. This was for the session of 1895 and 1896, acting under the ruling of an examination by the county superintendents of public instruction. This method has proved unsatisfactory, for nearly all of this number have since been reinstated. For the session of 1896 to 1897 matriculates must have diplomas of graduation from a literary or scientific college or high school, or in lieu thereof pass an examination before the State superintendent of public schools.

**DISSECTION.**—It is with the greatest difficulty that the smaller colleges secure subjects for dissection. If there were not more students than necessary the anatomical

law would supply the demand. It was never intended that every city of fifty or sixty thousand people should have two or three medical colleges. But the colleges must have the subjects or the State board won't recognize them. What is the result? The anatomical boards can't supply them, and we see a Topeka Medical College close its doors temporarily; we see a widow suing a St. Joseph Medical College, charging the school with the theft of her husband's body; we see nineteen medical students arrested at Des Moines, Iowa, on the charge of grave-robbing. There is little encouragement to smaller schools if the teaching of the very foundation study of medicine is attended with such hazard.

**LENGTH OF TERM.**—By establishing a uniform length of term another blow has been struck at the smaller schools. They have heretofore said to the student: "Come to us; a diploma is what you want. We will graduate you in two years. Why go to a school that requires three? Our term is only five months long; why do you want to study six? Our fees are one third those of the larger schools. You can board in our town for three dollars a week; why go elsewhere and pay five?" But when every school in every city must give a course of equal duration one of the great inducements of the smaller medical college is gone.

**CLINICS AND HOSPITAL ATTENDANCE.**—In a recent article entitled *The Necessities of a Modern Medical College*, Dr. Ingals says: "The advantages that were considered ample until recently can not now be accepted. Every college must therefore be provided with dispensary rooms and hospital accommodations. I am familiar with the fact that fifty years ago a first-class medical college could be conducted with very little clinical material, but it does not seem practicable to give the instruction requisite at the present time with less than four or five thousand outdoor patients annually, and hospital facilities of less than seventy-five or a hundred beds." How many of the smaller colleges can measure up to this minimum requirement? How many cases of obstetrics do their graduates attend before receiving a diploma? Do their graduates have sufficient hospital experience to acquire a knowledge of the grave diseases affecting men? If they have all these things, why in the name of Heaven do their graduates pack their grips and start for a large school in a large city?

And thus I might go on enumerating many other points in which the smaller school works at a great disadvantage, under a uniform standard of requirements; but I will not weary you; I merely mention chemical, bacteriological, histological, and pathological laboratories and the expense of their proper equipment and maintenance, which can not be obtained from the tuition fees.

Let us now consider the effect upon these schools of a law requiring a State examination of every graduate from every school. Will this examination be more difficult than the school examination? Undoubtedly it will. The examinee when at school has opportunities to be-



come acquainted with the hobbies of each teacher. It is a well-established fact that every teacher has special questions and special subjects that play an important rôle in his examination. These individual preferences are handed down by tradition from one class of students to the succeeding one. Special stress laid upon certain subjects during the winter's course by the teacher are sure pointers of future examination questions. Students and quiz masters are quick to pick up these hints. How common it is toward the end of a session for students, with or without the help of a quiz master, to "bone up" on studies for examination! When the final test is made, many of the questions asked in the trying ordeal are found to be the ones expected and looked for. In fact, one of the strongest inducements held out to students by quiz masters is the knowledge which the latter possess of the individual peculiarities of the teacher's views on medical subjects taught by him, and a list of the questions which have been asked on examinations for many years perhaps. Any one who has looked over such a list has been struck with the striking similarity of the questions asked and with the appearance at certain intervals of well-known ones. The disadvantage under which a student labors who takes the senior year in another college from that in which his first courses were taken is thoroughly well understood, and is only another proof of the truth of the above assertions. In other words, each college has an examination that in character, questions asked, standard required, and other characteristics is *sui generis*. These things are not true of a State examination. The questions are broader in scope, because they are prepared from a study not only of medical college examination papers, but of many State examination papers. Go to the students who must pass a State as well as a college examination and ask them which they fear the most. They will answer, the State examination, and cite as a basis of their dread the reasons mentioned above, or others of a like character. There is every inducement on the part of a State board to keep the grade of its examinations high, so that incompetent men may be kept out of the State. If it establishes a grade lower than that of its neighboring States the State over which it has jurisdiction at once becomes the dumping ground of those who have failed to obtain a license elsewhere.

There is every inducement for the medical college to make its examinations easy, especially if it be an undowered institution, dependent upon students' fees for existence. The tendency of one is up, the tendency of the other is down. When a student knows that after his medical college life is ended there is an examination to be passed at which he has no "under holds," at which he must prove the possession of medical knowledge sufficient in amount to entitle him to be trusted with the lives of his fellow beings, and that, too, before a tribunal impartial and impersonal, what will be his course? He will at once see that nothing but the possession of sheer

knowledge will be of avail, and he will set about seeking a place where this can be best obtained. Will he find it in the medical college of the small city? I believe not. A diploma carrying with it the licensing power is the stock in trade of these medical colleges. Do away with licensing power and you have done away with the only inducement it has to offer, and students desiring a medical education will go elsewhere. Do away with students and you do away with the food which gives the college life. Inanition and death follow. The diploma law is gradually being replaced with the State examination law. There are now twenty-two medical examining boards in the United States recognizing no diploma as a license. When all the States shall have fallen into line the smaller medical college as a degree-conferring body will become a thing of the past.

Having to compete with the superior advantages of the larger colleges on the one hand and constantly subjected to the prodding of the State board on the other, deserted by those students who recognize that such a college can not fit them for a State examination, drawing their supply of students from a territory ever diminishing in size because of the encroachments of medical practice laws upon States heretofore having none, so situated that it is absolutely impossible for them to comply with the ever-increasing demands of the profession for a higher education, and having to meet these demands with an ever-diminishing income produced by the lessened number of students, it does look as though the future of the medical college in the smaller city is dark and dreary.

If, then, all these things are true, what will be the future of the medical college in the smaller city? The handwriting is on the wall, and Mene, Mene, Tekel, Upharsin does not require the aid of a prophet for interpretation. At no far distant day a diploma will have one significance and one significance only. It will indicate that the holder has complied with the prescribed course of the institution granting it, and it will be a preliminary to the State license. The medical college of the future will be compelled to regulate its teaching by requirements of the civil licensing power. It will stop trying to do something it can not do. We have reached the high tide in medical college creation. There will never again be as many medical colleges. They will lessen in number but improve in quality with every succeeding year. Cities that are capable of sustaining one good medical college will see the three or four now existing merged into one institution capable of doing good, thorough, honest work. Others still will cease to be degree-conferring institutions, but will correlate themselves with colleges in larger cities where ample facilities for teaching the senior classes are found. They will find a legitimate sphere of usefulness in teaching the primary branches of medicine and then passing the student on for final instructions and for the degree to a degree-conferring school in a large city.

Colleges so situated as to be unable to comply with the ever-increasing demands of the civil medical authorities will become extinct. When this condition of affairs is brought about we shall see medical colleges receiving endowments. With these endowments will come larger teaching facilities and larger facilities for original research. As a result of the former will come a highly educated profession who will use the discoveries of the latter to lessen the woes and sufferings of the human race.

I trust that this paper will leave upon your minds the abiding conviction that a medical examining law is superior to every other form of enactment having for its object the legal control of medical practice. I hope that Kansas in this, as in everything else, will prove herself in the line of progress. I hope that she will place no "mossback" law upon her statute books.

"Under these conditions and tendencies, by the end of the second thirty years of our history the number of medical colleges had increased from five to forty-one; the number of students attending them, from six hundred and fifty to twenty-five hundred; and the ratio of those graduating each year, from less than one in six to one in three.

"Here we see a system of medical colleges originating spontaneously to supply the wants of a free and rapidly increasing people, and open to the most unrestricted rivalry, actively developing two apparently opposite results. In one direction the schools properly vie with each other in increasing the number of their professors, in full consonance with the rapid advancement of the medical sciences; they sagaciously seek out and enlist the services, as teachers, of the most learned, eloquent, and industrious men to be found in the profession; they spend time and money freely in filling laboratories, anatomical rooms, and museums with all the means for efficient teaching and illustration. So far their free rivalry has reference only to their office as teaching bodies, institutions for imparting instruction, and is productive of nothing but good to the profession and the people. But the anomaly consists in the fact that, at the same time they were increasing their professors, the same institutions were rapidly shortening their annual courses; cutting off all collateral requirements; failing to grade the branches of medical study as they increased in number and extent, so as to adapt them to the several years of pupillage; and even reducing the final examination to the simple process of asking a few oral questions in the mysterious 'greenroom.'

"This most unfortunate tendency of our experiment in permitting the freest rivalry in the establishment of medical schools results directly and necessarily from the fact that the degrees they confer and the diplomas they give have been permitted throughout the whole country, with only a few temporary exceptions, to have all the force and effect of a license to practise medicine. It requires but a moderate familiarity with the motives that govern human actions to see clearly that in a country where there are no entailments of estates, and where the great body of young men who seek the professions are without pecuniary fortunes, and largely dependent on their own industry for the means of education as well as reputation and fortune in after life, the question, 'Where can I get the degree of doctor, which is equivalent to a license to practise and a full admission into the ranks of the medical profession, in the shortest time,

and consequently with the least expenditure of time and money?' exerts a very great if not controlling influence in determining where the student shall attend his college instruction. Not that medical students are a whit less conscientious in their desire to fully qualify themselves for the responsible duties of our profession than those who seek any other calling in life; but present necessity, or even convenience, easily controls when there comes with it the flattering thought that, at another time, after having earned a little money by practice, all deficiencies can be supplied by a season of reviewing in a school of the largest facilities.

"Just on this half-unconscious delusion, hundreds are induced to go where the requirements in time and money are least, regardless of all other advantages. The medical college in a country village, remote from all facilities for clinical instruction in hospital or dispensary, and but scantily supplied with subjects for dissection, can issue to its graduates just as large a diploma, couched in just as unintelligible Latin, and having much the same influence with the people as the school in a metropolitan city whose students can have the largest facilities for clinical and practical study. Hence it is not strange that, before the end of the seventh decade of the past century of our existence as a nation, about forty medical colleges had been organized, only sixteen of which were so situated as to afford their students any proper facilities for clinical instruction; and that those sixteen were resorted to by a little more than one third of the whole number of those who attended medical colleges.

"The general acceptance of the college diploma as full admission into the profession, thereby uniting in the hands of the same men the business of teaching and the power of licensing, has continued to the present day. It is wholly responsible for the fact that, while we have sixty-four medical colleges to-day (1876), one third of them are so located that they can afford their students no advantages for clinical instruction worthy of mention; and all except three or four still attempt to crowd instruction in all the departments of medicine upon the attention of mixed or ungraded classes, in annual college terms of from sixteen to twenty weeks, and exact only two such strictly repetitional courses for graduation.

"This state of things, in regard to our medical schools, is made still worse by the fact that, during the century under consideration, the system of private medical pupillage has undergone a complete change. At the beginning of that period, as we have already seen, the private study under a master was a protracted and serious work, and the resort to the college was simply to review and more fully illustrate that work; but steadily, as medical colleges increased in number, as population became more dense, and as steamboats and railroads increased a thousandfold the facilities for travel, the work of private pupillage relaxed. Indentures of medical students, as pupils, to the more noted practitioners long since ceased, and the relations of student and preceptor have become merely nominal in practice; in nine cases out of ten consisting in little more than the registry of the student's name in the doctor's office, permission to read the books of his library or not, as he chooses, and the giving of a certificate of time of study for the student to take to the medical college where he expects to graduate."—*Contributions to the History of Medical Education and Medical Institutions in the United States of America, 1776-1876*. Bureau of Education, Washington, D.C.



# A CASE OF RENAL PHTHISIS COMPLICATING PULMONARY TUBERCULOSIS.\*

By HERBERT MAXON KING, M. D.,  
GRAND RAPIDS, MICH.

MR. PRESIDENT AND GENTLEMEN: Transient albuminuria intervening in the course of pulmonary tuberculosis is a most frequent and trivial complication which need neither occasion alarm nor necessitate any change in the mode of treatment, since, as a rule, it is either simply an evidence of the impaired nutrition of the renal epithelium or the result of the periodic pyrexia. Even that degree of renal congestion marked by the presence in the urine of albumin, small hyaline casts, and cylindroids, appearing at intervals in the course of the disease, is not an alarming or infrequent complication of phthisis and can not of itself indicate any serious disturbance of the integrity of the kidneys.

But a persistent albuminuria appearing after the development of tuberculosis in the lungs, attended with an increased pyrexia and less marked remissions, rigor, polyuria, dysuria, and especially pyuria to a greater or less degree, should always excite the keenest apprehension and vigilance. For these are unmistakable signs of nephritis, a condition grave enough in itself, to be sure, but doubly so when occurring as a complication of pulmonary phthisis.

Intervening in the later stages of pulmonary tuberculosis, or in the course of an acute general tuberculosis, nephritis only hastens the inevitably fatal termination, and its recognition in such cases is a matter of little moment to the patient and, aside from gratifying scientific zeal, of little practical value to the physician.

But, appearing as it sometimes does early in the course of the pulmonary disease, when but a small portion of the lung is involved, I can not but think that its recognition is the means of occasionally saving life, or at least of prolonging it.

Nephritis in a tuberculous patient whose kidneys have before been healthy must almost of necessity be either a renal phthisis due to direct infection through the lymph channels (or possibly the circulation?) or an interstitial nephritis due to prolonged disturbance with the nutrition of the kidney cells. The case which I desire to present to you this evening is a type of the former, one of unmistakable tuberculosis of the kidney; its interest lies mainly in the microscopical appearance of the urinary sediment, in which absolute proof of the nature of the existing lesion is demonstrable by the presence of the tubercle bacilli in characteristic arrangement.

Tuberculosis of the kidney occurs in two distinct forms: (a) acute miliary tuberculosis, and (b) local

caseating tuberculosis or scrofulous kidney (Purdy). The former is twice as frequently met with as the latter, according to the above-quoted authority, and hence renal phthisis is not a condition often met with, especially in private practice.

I find upon a careful *résumé* of the last fifty cases of tuberculosis occurring in my own practice that I have seen three in which renal phthisis was a complication. I have been able to demonstrate the presence of tubercle bacilli in the urinary sediment in two of these, including the case which I present to you to-night. The third instance of this condition yielded to treatment\* before there was breaking down of the involved tissues, and the specific bacillus has presumably not been present in the sediment, although the case is still under close observation. Even when the bacilli do exist in the urine, as shown in the development of cultures inoculated from such urine, Purdy states that it is very difficult to demonstrate their presence from cover-glass preparations of urinary sediment. Vierordt, however, says it is as easy to demonstrate their presence in the urine as in the sputum. I have not found it so in my experience, and for obvious reasons I should think it would always be a much more difficult matter.

The case which I wish to present is that of a woman, thirty years of age. In the family history it develops that one sister died from acute tuberculosis at eighteen years of age, and one brother has shown evidences of incipient disease at the apex of one lung. Parents and grandparents free from tuberculosis in any form. The patient has been married seven years, in which time she has borne five children, all apparently healthy, the last being, at the time of examination (February 17th), seven weeks old. Cough and emaciation date from about one year ago. She was, however, much better during pregnancy, only to grow rapidly worse after parturition.

Subjectively, cough and expectoration, occasional night sweats, anorexia, and general loss of strength are the only distressing symptoms. It is worth remark that at no time in the history of the disease has pain, either in the region of the kidneys or upon micturition, been present.

PHYSICAL EXAMINATION, 2 o'clock, P. M.—Pulse, 125, regular and fairly strong. Temperature, 102° F. Inspection discovers marked emaciation, depressed infraclavicular spaces on both sides, with considerable loss of expansion at right apex. Palpation discovers increased vocal fremitus at right apex. Percussion: Dullness marked at right apex; much less, though slight, dullness at left apex. Auscultation: Cavernous respiratory sounds, moist and dry râles, and increased vocal resonance at right apex. "Roughened" respiration at left apex. Posteriorly, diminished vesicular murmur at base of right lung. Examination of the blood by Thoma-Zeiss cytometer gives an average of 3,975,000 red corpuscles to the cubic millimetre; by von Fleischl's hæmometer, fifty per cent. of normal hæmoglobin. Microscopically, numerous poikilocytes present. (It is interesting to remark the discrepancy between the numerical value of the blood and the amount of hæmoglobin pres-

\* Read before the Grand Rapids Academy of Medicine, March 9, 1896.

\* The hypodermic administration of nucleinic acid solution in doses averaging a hundred minims daily.





more interesting specimen, one of the urine sediment, containing bacilli tuberculosis, and accordingly the pathognomonic sign of the existing condition. It is

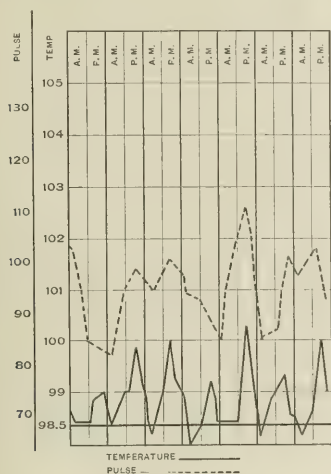


FIG. 2.

stained by the same process as the sputum and demonstrates the bacilli, in several fields, in an arrangement similar to that met with in pure cultures, which, accord-

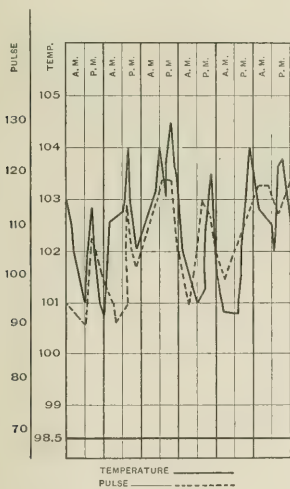


FIG. 3.

ing to Vierordt, Purdy, and others, is characteristic of this condition, and it would be quite impossible to confound them with the smegma bacilli of the healthy urethra. By aid of an improvised camera lucida I have made a sketch of one field which after long search I found best illustrated this arrangement of the bacilli,

and this I also beg to present as perhaps showing this peculiar arrangement better than the field now under the microscope (see Fig. 1).

In conclusion, the lesson taught us by such a case may be worthy of note. In the first place, the urine from a phthisical patient should be subjected to frequent and rigid examinations, and more particularly in cases where the rigors, pyrexia, and prostration are out of proportion to the extent of the apparent lesion. In this connection I would ask your attention to the two clinical charts. The first (Fig. 2) is that of a patient suffering from fully as great a pulmonary involvement as is the case reported, and the temperature and pulse I regard as typical of the generality of such cases. The second (Fig. 3) is a chart from the case reported. The departure from the rule in this would, of course, excite our most lively suspicions.

Finally, vigilance should not be relaxed because of absence of subjective symptoms pointing to renal complications, which, as I have shown, may progress to an advanced stage without any symptoms which would indicate the nature of the complication.

86 JEFFERSON AVENUE.

#### A CONTRIBUTION TO THE STUDY OF ACUTE ASCENDING (LANDRY'S) PARALYSIS.

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(Concluded from page 10.)

Thus it appears from the forty-two cases cited that fatal acute ascending paralysis may be associated with any one of four conditions, which may be classed as follows:

1. Cases in which no histological changes were demonstrated in the nervous system.
2. Cases in which there was an acute exudative inflammation of the cord and medulla, and sometimes of the brain.
3. Cases in which there was an acute inflammation of the peripheral nerves.
4. Cases in which there was an acute inflammation both of the central and peripheral nervous systems.

1. *No Changes Found.*—After careful consideration of the cases in which no lesion was found in the nervous system, we consider it a matter of considerable doubt whether this same negative result would have been reached if the present accepted methods of examination had been applied. In six of the sixteen cases in Group I the peripheral nerves were not mentioned or not examined. In only two is it stated that the nerves were examined in osmic acid. Furthermore, in none of these cases were the most improved methods for the study of

cytological detail employed. It is entirely possible that Nissl's stain might have revealed lesions in the ganglion cells which, examined by cruder methods, failed of demonstration. In spite of these objections to the methods used, the examinations were conducted by skilled investigators, and a long series of examinations, with uniformly positive results, will be necessary before it can be postulated that fatal acute ascending motor paralysis can not exist without demonstrable changes in the nervous system.

2. *Changes in the Cord only.*—Of the fourteen cases from Group II, (a), in which well-marked changes were found in the cord alone, in nine the peripheral nerves were not examined; in only one of these were the clinical symptoms of neuritis present. The remaining five cases conclusively demonstrate that a lesion limited to the cerebro-spinal axis may produce acute ascending paralysis. Moreover, here must be added four of the cases reported as anterior poliomyelitis, in which the pathological changes were the same as those found in the cases of Group II, (a), and in which the symptoms were typical of acute ascending paralysis. There is, therefore, a total of eighteen cases in which distinct lesions were found in the cerebro-spinal axis alone.

3. *Nerves only Affected.*—The changes of peripheral neuritis alone were satisfactorily demonstrated in one of these four cases in Group II, (b). In Hun's case degeneration of nerve fibres was found in the anterior roots of the cauda equina only. Such a lesion being entirely inadequate to cause death, this case might equally well have been placed with those in which no lesion was found. It is impossible to say from Putnam's report whether or not the cord was involved as well as the nerves, as it is not stated in his article that the cord was examined. Thus there is only one case from Group II, (b), to show that a lesion limited to the peripheral nerves may cause typical symptoms of fatal acute ascending paralysis.

Notwithstanding the contrary conclusions reached by some other observers, our plan of classification, necessitating a complete clinical adherence to acute ascending motor paralysis and a satisfactory pathological examination, has prevented us from including any further cases in this category.

If these cases of peripheral neuritis are to be associated with those of anterior poliomyelitis under the term of Landry's paralysis, such a classification can only be justifiable by the modern conception of the neuron.

With only a single element, the secondary motor neuron between the cortex and the anterior horns of the spinal cord, and the primary motor neuron between the anterior horns and the periphery, the distinction between peripheral and central changes of the nervous system has become less sharply definable.

So the cases of Landry's paralysis, in which pathological changes are found chiefly in the nerve trunks, may be explained by the assumption that the effects of

the disease were chiefly in the primary motor neuron; and, although the irritation acted originally on the protoplasmic portion of the neuron, those portions of the neuraxons farthest removed from the nutrient protoplasm showed the most evident results of the action of the toxic agent.

The same explanation may hold good for the primary motor neuron, although no cases have as yet been examined with sufficiently delicate methods (e. g., Marchi's) to detect degenerations in the neuraxons of the cortical cells.

4. *Changes in Cord and Nerves.*—Only three of the cases from Group II, (c), can with complete accuracy be placed in this class; but, from the fact that in Centanni's case bacilli are reported in considerable numbers in the nerve sheaths (a most unusual occurrence), we have thought best to classify that case among those showing changes in both cord and nerves. To this class also rightly belong one case reported by Rissler and one by Redlich, detailed in Group III, and originally described as acute anterior poliomyelitis. In these the symptoms were typical of acute ascending paralysis, and pathological changes were found both in the cerebro-spinal axis and in the peripheral nerves.

It will be seen from the foregoing summary that there is a total of twenty-eight recorded cases of Landry's paralysis in which lesions were demonstrated either in the central nervous system alone, or in the central and peripheral nervous system.

But few bacteriological examinations in any of the preceding cases have been made. Eisenlohr (Group II, (c)) found the *Staphylococcus pyogenes aureus* in all organs, and the *Staphylococcus cereus* (Passet) in the spleen and sciatic nerve. Curschmann found bacilli in the white substance of the cord, which he professes to have demonstrated (by inoculations in rabbits) to be the typhoid bacillus. Giusetti cultivated a chromogenic bacillus from the cord and sciatic nerve. Centanni saw small bacilli in the sheaths of the peripheral nerves. Oettinger and Marinesco demonstrated cocci in the ganglion cells, in leucocytes, and in the tissues around the central canal. Remlinger isolated, with careful technics, a pure culture of *Streptococcus longus* from the spinal cord. Inoculation of rabbits from the tubes was without effect. Partial bacteriological examinations in four other cases were negative.

Although conclusive demonstration is wanting, a consideration of the ætiology, symptoms, and pathology of this disease points toward the action in the body of some toxic agent, in many if not in all cases of bacterial origin, as the direct cause of the lesion. In support of this belief we may refer to the occurrence of lesions identical with some of those described above in epidemics of anterior poliomyelitis (Medin, *Verhand. d. X. inter. Cong.*, vol. ii, 6, 37; Cordier, *Lyon med.*, 1888, lvii; Caverly, *Am. Med. Jour.*, 1896, xxi, p. 1). Also Bristowe and Horsley (*Brit. Med. Jour.*, 1888, vol. ii, p. 1110) report a case of



typical ascending paralysis, without detailed autopsy, due to undoubted rabies.

Finally, Thoinot and Masseline (*Rev. de méd.*, June, 1884) have succeeded in producing symptoms of spinal paralysis in rabbits by intravenous injections of *Bacillus coli communis* and of *Staphylococcus pyogenes aureus*.

The lesions, as detailed in the foregoing tables, are those of an intense acute exudative inflammation of a character such as is usually dependent on a bacterial cause. The condition of the abdominal viscera points distinctly to an infectious element in the local process. If we are to accept the negative pathological reports collected in Group I, the symptoms in such cases may be most reasonably explained by the presence in the circulation, and especially in the region of the central nervous system, of a toxic agent which destroys nervous function without causing demonstrable histological lesion.

From the limited data it has been impossible for us to distinguish any differential clinical signs from the various classes. While most cases associated with extensive pathological changes bore the clinical stamp of infectious disease, in some with negative pathological report this feature seemed equally pronounced. Again, sensory changes indicative of neuritis were present in cases in which the nerves were found to be normal, as well as in those in which neuritis was demonstrated. Marked febrile disturbance was not prominent in any of the cases, but occurred in isolated instances in all classes.

The application of electrical tests seemed of no assistance in determining the pathological condition.

While it is not to be expected that the bladder and rectum should be paralyzed in lesions limited to the peripheral nerves, these functions may equally well remain unaffected if the lesions of anterior poliomyelitis are but slightly marked in the sacral region. Other clinical data were equally lacking in differential value. In the table on symptomatology may be found a review of the symptoms as they occurred in the various groups.

The conclusions from the present study may be summarized as follows:

Acute ascending paralysis is an acute toxæmia in which the poisonous agent affects chiefly the nervous system.

The commonest seat of the lesion is in the spinal cord and in the medulla, and it may be present in the cortex and in the nerve roots. When in the spinal cord the lesion is that of acute anterior poliomyelitis—namely, an acute exudative inflammation, following the distribution of the central branch of the anterior spinal artery, with cellular infiltration of the circumvascular sheaths, degeneration of ganglion cells, loss of structural elements, and with or without degeneration of the anterior roots. The lesions in other parts of the cerebro-spinal axis are of a similar nature.

The evidence that the lesion of typical Landry's paralysis may exist in the peripheral nerves alone is based

upon a single case reported twenty years ago by Dejerine. When the lesion affects the peripheral nerves there are increase of neuroglia cells and degeneration of nerve fibres.

It is at present impossible to deny that acute ascending paralysis may run a fatal course without leaving demonstrable histological changes in the nervous system. It is certain that the cases with negative pathological report did not present the marked vascular lesions of acute anterior poliomyelitis, but it seems probable that in these cases there were changes in the ganglion cells demonstrable by delicate methods. From the present data it seems to us impossible to distinguish by the clinical symptoms the different types of lesions.

The investigation of the present case was conducted in the pathological laboratory of the College of Physicians and Surgeons. For kind revision of the paper we are greatly indebted to Professor T. Mitchell Prudden and to Professor M. Allen Starr. Our thanks are due to Dr. Hodenpyl, pathologist to Roosevelt Hospital, for the opportunity of reporting the case.

## SPINDLE-CELLED SARCOMA OF THE NASAL PASSAGE.\*

By J. E. BOYLAN, M.D.,

CINCINNATI.

IN view of a somewhat more hopeful prognosis which accumulating reports of sarcoma of the nasal passages seem to hold out, I wish to add the following case to those already recorded:

In July, 1894, Mr. P., aged forty-five years, of Coburg, Canada, suffering from obstinate nosebleeding, was seen by me with his family physician. The bleeding, which had become of late severe, had occurred frequently during a period of several months, and had twice proved difficult to check. On a recent occasion, while hunting in a canoe, he had an attack which was so prolonged that he became very weak from loss of blood before it could be arrested. He had further suffered from stoppage of the nose and occasional acute pain in the head for nearly a year.

At the time of introduction, he presented an abnormally broad and flattened nose, somewhat irregular in shape, owing to a noticeable bulging on the left side under the margin of the nasal bone. There was some slight oozing of blood from the nostril, and, upon compressing the opposite side, the left passage was found to be totally occluded. Closer examination revealed the following: Upon tilting up the tip of the nose, an irregular brown-red mass at once became visible, filling in the cavity almost to its anterior opening, being quite soft to the touch, and bleeding freely upon contact with a probe. Posterior rhinoscopic examination, which was quite practicable, disclosed the growth blocking the back part of the left passage, and limited only by the posterior nares. From explorations with the probe, it

\* Read before the American Laryngological Association at its eighteenth annual congress.

was further apparent that this mass sprang from some part of the lateral wall. As circumstances rendered an early resort to a more extensive operation not practicable, and the patient was eager for relief, it was resolved to remove the growth with the wire *ecraseur* and curette.

A coarse loop was passed over the presenting part, and a section as large as a hickory nut removed; hemorrhage, which was quite profuse, was arrested by plugging with iodoform gauze. At a second sitting, on the following day, a large wire loop was passed quite through the meatus, and, being guided by a finger in the nasopharynx over to the side wall, the bulk of the growth was fairly caught, constricted, and then torn loose from its attachment. The removal of this much larger mass from the meatus was accomplished with some little difficulty with a flat forceps; in fact, it probably could not have been extracted in this way whole if it had not been quite soft and flexible. The site of the attachment was thoroughly curetted, which was the more easily accomplished on account of the dilated condition of the passage. Free hemorrhage was again arrested by plugging with iodoform gauze. Upon inspection, the growth removed appeared as a solitary tumor of limited base, about the size of a hen's egg, being somewhat longer and much flatter, and greatly resembling in color a section of liver—its surface somewhat irregular, and covered apparently by a thin capsule—having had its attachment over about an inch and a half or an inch and three quarters of the outer wall, originating in the lower turbinated body and apparently confined to it. The remaining portion of the growth here exhibited has retained its general appearance fairly well.

**MICROSCOPICAL EXAMINATION.**—The first sections taken from one extremity of the growth showed a framework of myxomatous tissue inclosing numerous large and connecting spaces, which here and there contained blood, but with no true blood-vessel walls; the structure therefore suggested a venous cavernoma; deeper sections, however, soon showed the bulk of the tissue to consist entirely of new growth composed of a very scant reticulum crowded with round and spindle cells. The following report and the slides exhibited are from expert microscopists of the Cincinnati Hospital:

Transverse sections through the thickest part of the tumor showed that the growth was principally composed of spindle cells, arranged partly in bundles and partly irregularly. In some parts of the section the cells were of many shapes, round, spindle, and irregular cells being mixed together. Very little fibrous stroma was present. Along the free margin of the tumor were found the remnants of the mucous membrane, consisting principally of delicate fibrous tissue richly supplied with blood-vessels, and containing in some places extravasated blood; the epithelial cells of the membrane were wanting. The new growths had infiltrated this tissue, and in part reached the surface. Blood-vessels were abundant, and their walls were more or less completely infiltrated with the spindle and round cells. Large irregular spaces were also abundant in some parts of the growth, and seemed to be venous sinuses whose walls had become partly or entirely replaced by the tumor cells. Diagnosis: Spindle-celled sarcoma.

ALLYN C. POOL. CHARLES S. EVANS.

Two days after the operation I returned to Cincinnati, and a few weeks later a communication received from the patient stated that he found himself entirely relieved of his former alarming symptoms. A little over a year from the date of operation, in August, 1895, the

patient was again seen in Coburg, and it was gratifying to find that no sign whatever of a recurrence was to be detected. The nasal cavity was still abnormally large, the lower turbinated body was represented by a ridge but slightly elevated above the side wall of the passage, and lacking the contour of the normal body. A letter finally, dated May 10th, something less than two years after the operation, announces that the patient is enjoying excellent health, and has had no further trouble with his nose.

In presenting the above-cited case, it is not intended to advocate the removal of sarcomatous growths piecemeal with the snare or forceps, however alluring these procedures at times appear, the writer concurring in the views of Plicque\* and many others that operations which do not aim at total removal of growths of this type, including tissue to which they are immediately attached, are to be looked upon as inefficient surgery. It is offered as a further contribution to the accumulating number of cases which must materially modify the almost unqualified hopelessness of the prognosis which we have been taught to accept regarding sarcoma. If the outlook for the disease in the remoter parts is conceded to be of the gravest, in the depths of the nasal passages, so directly continuous with the intricate recesses of the fragile central bones of the skull, it would seem so unrestricted, so recondit, that little or nothing is to be hoped from operative interference. In fact, however, a review of the seventy or more cases recorded will show that, even when of considerable size, these tumors may have involved the tissue so superficially that they may be successfully eradicated, and that in some instances after protracted growth and repeated recurrence they have been arrested by more extensive operations. An effort on the part of the writer to determine with some degree of accuracy the lasting results obtained from these operations has proved quite futile, owing chiefly to the impossibility of obtaining, even by those who have reported them, their subsequent history, and it is only possible therefore to state briefly results as reported.

In summing up the results of forty-two cases of sarcoma of the nasal passages found in the literature up to 1889, Bosworth† concludes that "sarcoma of the nose does not apparently present the same malignant tendencies as it does when found in other locations."

The twenty-one cases below enumerated, taken from literature since Bosworth's tabulation, do not include several to which reference was found, but which could not be obtained in detailed report; nor do they include cases in which the growths did not originate in the nasal passage. Excluding from these twenty-one cases two (IV and V) in which no operation was attempted, and two others (XVII and XXI) in which it was admittedly incomplete, there remain seventeen cases in which an attempt was made to extirpate the growths. Of these, but two (XII and XIX) are recorded to have died from

\* *Ann. des mal. du larynx*, etc., March, 1890.

† *Textbook on Diseases of the Nose and Pharynx*.

recurrence—one of them four months after the operation. In five cases (IX, XIII, XVI, XVII, and XX) no subsequent history is referred to. The remaining ten are reported as follows:

CASE I.—No recurrence after five months.

CASE II.—Probably no recurrence.

CASE III.—Recovery.

CASE VIII.—No recurrence after short time.

CASE X.—No recurrence in four months.

CASE XIV.—Cure, no recurrence.

CASE XV.—No recurrence.

CASE VI.—No recurrence in one year.

CASE VII.—No recurrence in one year.

CASE XI.—No recurrence in eighteen months.

While these apparently gratifying results are clearly too vague to serve as a basis for definite conclusions, and are further found to be somewhat modified by detailed report, yet in the cases thus far recorded rapid recurrence has followed operation in the minority of instances, and prolonged, if not permanent, immunity in a number of those above referred to, as well as in others occurring in the nasopharynx, not only encourages but indicates a prompt radical operation whenever there appears a fair chance of removing the growths completely, and especially in the case of smaller limited tumors which may be thoroughly exposed by preliminary incision.

The diagnosis of malignant tumors of the nasal passages, and also the nice questions as to when operative interference is contraindicated, and when it is no longer justifiable, have been ably discussed in the literature (Plicque, *Ann. des mal. du larynx*, etc., March, 1890). The malignant character of the growth is usually indicated early in its course. Hæmorrhage is a symptom of the first importance, and is frequently the first to indicate disease; in the cases recorded it was rarely wanting, usually being a premonitory symptom, occurring exceptionally only upon light contact with a probe. As the disease advances, obstruction, acute pain, rapid growth, and at times the appearance of the tumor point more positively to its nature, which may be rendered certain in most instances by removing with snare or forceps a section for microscopic examination.

In concluding the above report, it is desired to urge upon those who operate upon these cases the importance in the present state of our knowledge of publishing their subsequent history over a period of several years. Until this practice is adopted, more accurate information upon the important point in question, which should be in our possession, will remain beyond it.

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#### TRACHEAL STENOSIS.\*

By SAMUEL JOHNSTON, M. D.,  
BALTIMORE.

OF the many diseases of the respiratory tract which confront us as specialists we meet with none more distressing to the victim or more alarming to the attendant than those where narrowing of the calibre of the trachea is a prominent feature, and we are consulted in few instances where we feel a greater demand for all the resources of our art.

In stenosis of the larynx tracheotomy, intubation, or other treatment may, in some cases, give relief to urgent symptoms; but when the respiratory space is compromised beyond the reach of these aids, the picture is sad indeed.

The affections producing tracheal stenosis may be conveniently divided into those of extrinsic and those of intrinsic origin. Among the former may be mentioned aneurysm of the innominate artery and of the thoracic aorta; bronchocele, whether of the simple, cystic, or fibroid variety; tumors of the thyroid gland, more especially those of a malignant nature; lymphadenoma; and growths in the mediastinum.

Carcinoma of the œsophagus, by pressure upon the trachea, may cause severe dyspœa.

From within, syphilitic ulceration and its secondary consequences are by far the most frequent causes of tracheal narrowing, but tumors sometimes find their abode here.

The trachea may be pushed from its normal anatomical relations or flattened by compression. In one of my cases an aneurysm of the transverse arch of the

\* Read before the American Laryngological Association at its eighteenth annual congress.



aorta, growing backward, compressed the trachea to two thirds its normal size, as shown at the necropsy.

In the *British Medical Journal*, March 7, 1896, the following interesting case is reported by the Ashanti expedition correspondent, and I take the liberty of incorporating it in this paper:

"On the afternoon of the day that King Prempeh was taken prisoner in his own capital, Surgeon-Lieutenant Spencer, A.M.S., performed an operation on a cousin of the king's at the field hospital overlooking the palaver square. This was the removal of a large fibro-cystic bronchocele, about the size of an ostrich's egg, from the front of the trachea. This tumor had been growing for seventeen years, and involved a large part of the thyroid gland. It extended from near the point of the chin down behind the upper end of the sternum. It was firmly adherent to the trachea, and that organ was flattened out like a ribbon. This caused a great deal of dyspnoea, and there was difficulty at first in the administration of the chloroform. The operation, which lasted nearly two hours, was a distinct success, and when I saw the patient the following afternoon he was sitting up eating rice and milk. If the British occupation of Kumassi was distasteful to the royal family of Ashanti, there is one of them at least who ought, and I am sure will, bear a kindly feeling toward Englishmen—Quassie Appon, who was rescued by a young medical officer from a living death."

Tuberculous disease of the bronchial glands, in children more commonly, sometimes gives rise to symptoms of tracheal stenosis; but the lower end of the trachea and the bronchi are usually the site of the constriction.

I have had instances under my care where in one case an aneurysm of the innominate artery, in another an aneurysm of the arch of the aorta, in another malignant disease of the thyroid gland, and in another malignant disease of the œsophagus caused tracheal stenosis. I shall not, however, give these cases in detail, but simply mention that the only relief afforded these patients was in the judicious administration of antispasmodic and anodyne remedies until death closed the scene.

The predominating symptom in stenosis of the trachea is inspiratory dyspnoea, characterized more particularly by its stridulous nature, and the cyanosis and great restlessness with which it is attended.

Gerhardt points out an important distinction between stenosis of the larynx and that of the lower air-passages.

He says: "When the obstruction is laryngeal, the head is thrown backward as far as possible. When it is tracheal, the head is stretched forward, and the chin slightly depressed, so as to relax the trachea"—a distinction to be borne in mind. The diagnosis in these cases is, in the majority of instances, a matter of difficulty, and our professional acumen must be called into action, together with the use of the great aids to diagnosis to be found in the laryngoscope, physical examination, and, I may add, the œsophageal bougie.

A careful laryngoscopic examination will reveal any

disease of the upper respiratory tract, such as cicatricial contractions, tumors, ankylosis of the crico-arytænoid articulation, various paralyses, gummatous infiltration, œdema, etc.; and a thorough physical investigation will enable the educated ear to detect any abnormal condition of the thoracic contents.

The patient consults us usually with a history of failing health of many months' duration—cough, dyspnoea, and pain radiating from an ill-defined centre being the chief symptoms.

The voice is more or less husky or aphonic, depending upon the degree to which the larynx or the nervous supply to the vocal cords is involved.

Nocturnal attacks of stridulous breathing, with a feeling of impending death, are not unusual; cough is dry and irritative, and the expectoration is sometimes blood-stained. With tracheal pressure are often found evidences of involvement of the neighboring vessels, nerves, lymphatics, and thoracic duct.

A picture bearing upon my title is so graphically given by Sir Thomas Watson that I can not resist quoting his own words. He says:

"We hear the patients complain of the want of breath; and we see how they labor to satisfy this want, when it becomes urgent, by the elevated shoulders, the dilating nostrils, the energetic action of all the muscles that are auxiliary to the respiration; we perceive by the dusky and loaded countenance, the livid lips and ears and eyelids that the blood is but imperfectly arterialized.

"The diminished capability of such blood to support the functions of the brain is made evident by the vertiginous sensations and the delirious thoughts of the gasping sufferers."

The treatment must be in direct keeping with the primary cause of the stenosis.

Surgical aid should always be sought, and when an operation is feasible it should be at once performed. If this chance of relief is denied us, our efforts should be addressed to the symptoms as they arise. Rest, functional and physical, is of primary importance, together with proper nourishment and the inhalation of medicated vapors.

The administration of arsenic, iodide of potassium, morphine, ether and ammonia, and thyroid extract in suitable cases, with the inhalation of chloroform, amyl nitrite, and oxygen in emergencies, will be our best therapeutics.

In this brief but imperfect sketch of the history of tracheal stenosis I have only endeavored to describe a distressing affection, trusting that you may be able from your experience to add some suggestions which may redound to the benefit of this class of unfortunates.

The Colorado State Medical Society held its annual meeting in Denver on Tuesday, Wednesday, and Thursday, June 16th, 17th, and 18th. An excellent programme was gone through with before a large attendance. Dr. Robert Levy was unanimously elected president, and Dr. H. B. Whitney secretary.

## INTERMITTENT DYSPHONIA SPASTICA.\*

By FREDERICK I. KNIGHT, M.D.,  
BOSTON.

SINCE my last communication to this association on dysphonia spastica (in 1889) very few cases have been published, and, judging from my own observation, I must still continue to think it a rare affection. It is possible that there may be a suggestion of it sometimes in the vocal disability of acute inflammation of the larynx, but the well-marked, easily recognized chronic affection of this kind occurs very infrequently.

In the usual manifestation of this affection, when the patient attempts to speak there is such a spasmodic closure of the glottis that it is only by great effort of the expiratory muscles that enough air is forced through the glottis to produce any vibration of the vocal cords, and then only of their edges, causing a high-pitched, jerky voice. There is often a tendency to obtain relief by speaking on inspiration. It has been said that the expiratory muscles may be concerned in the spasm, but it seems more proper to consider the contraction of the expiratory muscles as wholly voluntary, trying to force air through the tightly closed glottis.

In my experience it has occurred much more frequently in men who have overtaxed their vocal organs in public speaking, or talking in a noise or to deaf relatives. No new light, to my knowledge, has been thrown on the pathology or mechanism of this condition. While most cases could be considered cases of neuroses of occupation, like writer's or fiddler's cramp, others probably would not occur except for some lesion which acts by reflex on the phonatory muscles.

I have never yet seen a complete cure. The patient whom I exhibited to the association in 1882 wrote to me recently that his voice was better, implying that it was not well. I have recently seen one of the patients I mentioned in my paper in 1889, and there was no evidence of improvement.

Nothing new seems to have been established in the way of treatment except that more attention has been properly paid to vocal exercises, and the importance of not speaking on inspiration insisted on.

A case which I have had recently has interested me on account of the intermittent character of the affection. I have never had a patient with this affection before who did not during his visit unmistakably betray the nature of his trouble. This patient was a clergyman, who would preach half his sermon in a perfectly natural voice, and then suddenly, apparently when he was fatigued, lapse into the well-known, high-pitched, jerky voice, which continued until he brought his sermon to a close. As another illustration of the way in which rare cases come in pairs I may say that I have just heard of another patient who is intending to consult me, who is said to

have this affection in an intermittent form. The one whom I have recently seen is fifty-two years of age, of gouty diathesis, and has had rheumatic fevers. He has not been subject to bronchitis or hoarseness. The affection of the voice began about a year before I saw him, and he thinks it varies with the condition of the digestion. There was nothing decidedly morbid in the appearance of the upper air-passages, except that the mucous membrane of the right vocal cord was a little rough and thick. Whether this condition of the cord may have acted in a reflex way whenever the patient had fatigued the larynx it is impossible to say, but it may have been that the phenomenon depended primarily on the condition of the larynx produced by strain or improper use (allied to writer's cramp), and, secondarily, to have been excited or developed by the local condition of the right cord, sometimes intensified by hyperæmia due to indigestion.

## A PORRO OPERATION UNDER DIFFICULTIES.\*

By A. H. BUCKMASTER, M.D.,  
PROFESSOR OF GYNECOLOGY AND OBSTETRICS IN THE UNIVERSITY OF VIRGINIA.

THE brilliant results obtained by the modified Cæsarean section have, to a certain extent, lessened interest in the Porro operation, but the Porro, or some of its substitutes, has a clearly defined field of usefulness. It should be done in all cases where the abdomen is opened and the uterus found in a septic condition. This will be admitted, I think, by all obstetricians, but the recognition of the *status septicus* is not always an easy task. In fact, this difficulty of diagnosis has been the cause of many deaths after Cæsarean section which, I am firmly convinced, would not have occurred if the radical plan had been practised, and I think the time has arrived when we should remove the uterus in all cases where we are in doubt. In many cases the operation is an easy one, not demanding operative skill of a high degree, but merely requiring such a knowledge of the principles of pelvic surgery as is taught in our best medical colleges. With a better understanding of the methods of dealing with the stump which we possess to-day, we may say that there is no advantage for the Cæsarean operation over that of Porro on the score of time saved.

The case I have to report presents several points that put it outside of the general run of these cases. It was not one that caused any perplexity as to the proper method of procedure, for the indication was clear. There was a fibro-myoma connected with the uterus so low down that it absolutely prevented the passage of the head. The difficulties of the case, which happily resulted favorably, were due to adhesions, to the exhausted condition of the patient from long-continued expulsive efforts of the uterus, and to the fact that the operation was done in the woods and without conveniences of any

\* Read before the American Laryngological Association at its eighteenth annual congress.

\* Read before the American Gynecological Society, May 28, 1896.



kind. The result shows that we may hope for a good result under very unfavorable conditions.

On the evening of the 24th of April, I was requested by Mr. Finch to see a pregnant woman living some distance in the country. He had seen the patient for the first time a few hours before and found that she had been in labor four days, and that there was some obstruction to delivery the nature of which he was unable to determine. We rode that night about six miles in the woods to a rude log cabin where we found a white woman in labor. The abdomen was enormously distended and she was in an exhausted condition. She had a high temperature and a pulse of about 140. The waters had ruptured four days before, and since then she had suffered from strong expulsive pains. This was her first labor, and according to her reckoning she had gone over her time. The wall of the belly was discolored and bruised, and a satisfactory examination by the vagina or abdomen could not be made, on account of great tenderness. The patient was therefore placed under the influence of chloroform. The extreme poverty of the family was shown by the fact that there was but one basin in the house and no pitcher; but, in spite of this, we were able by a little patience to make the examination without violating the principles of asepsis. When the patient was fully under the influence of chloroform, the most careful abdominal examination failed to discover a living child, for we could obtain neither fetal movements, intermittent contractions, nor the sounds of the fetal heart. The vaginal examination was more valuable in solving the difficulties of the diagnosis. Above the symphysis, at the entrance to the pelvis, could be felt the uterine cervix. The posterior portion of the left oblique diameter was filled by a mass which at first felt like a head that had undergone a long process of molding, but was found to be a tumor of some sort. The anterior part of the left oblique diameter was found to contain a head, or, to state the matter more accurately, the conical projection of a small part of a head. The pyramidal mass composed of the head and the pyramidal mass composed of the tumor were both firmly engaged in the pelvis, and no amount of justifiable force was sufficient to dislodge them.

The condition with which we had to deal was the simultaneous engagement and impaction of a portion of the child's head and a portion of the tumor. The child evidently was dead, because careful and repeated examinations failed to reveal the heart sounds. As in all other cases of impaction with death of the child, three plans of treatment were open: first, we might reduce the size of the child's head; second, we might increase the size of the pelvis; and third, we might avoid the pelvic canal by taking a short cut through the abdominal wall. In making a choice of these methods the shape of the tumor suggested that it had undergone energetic compression by the uterus. The appearance of the woman indicated great muscular strength and she stated that the uterus had been contracting so vigorously that she had been unable to obtain more than short snatches of sleep. This made us apprehensive that the compression had been sufficient to cause death of the tumor, and that symphysiotomy or craniotomy might leave behind a sloughing mass of tissue. The appearance of the patient strengthened the apprehension of septic infection, for she was jaundiced and complained of having suffered from chills and profuse sweats. Of course, these symptoms might have been caused by breaking down of the

fetus inside of the uterus, but the absence of an offensive discharge or of disagreeable odor when the sound was passed made this unlikely. It was then after midnight and we returned home and arranged to operate at once, stopping uterine effort in the meanwhile by morphine.

The efforts of the surgeon to banish dirt and its evil associates from wounded surfaces has led to costly operating rooms and expensive and complicated operating-room paraphernalia. No end of time and hard work has been spent to learn the best method of securing asepsis for the operating surgeon, surrounded by all that wealth can procure to help him, but the conditions under which gentlemen operate in the farmhouse and tenement house have not received so much consideration as they deserve. Much of the operating work in the future, when the general practitioner is prepared to do such work, will have to be done under such conditions. Simple methods of disinfection are fairly well understood and can be carried out under very unfavorable circumstances, but the most annoying circumstance is the absence of material or instruments which may be needed in an emergency. The transportation of materials by satchels, valises, and bags is annoying and apt to cause delay. To rid myself of these annoyances, some years ago I had a trunk divided into compartments so that it would carry not only those used for the operation but an additional supply. It contains two large Arnold's sterilizers, a large receptacle for boiling instruments, and a supply of sterilized towels, sheets, etc., sufficient for several operations, and many instruments. The trunk is sent before with the nurse, and the operator arrives with his assistants, knowing that he will find not only what is necessary for the operation, but all that may be needed in an emergency.

Having made the usual preparations and carried out aseptic rules with the greatest care, I opened the abdomen. A large fibro-myoma presented itself which was found afterward to weigh sixteen pounds and a half. Its surface was covered with adhesions from the omentum and intestines. When the myoma was extracted through the abdominal incision the pregnant uterus was seen connected with the myoma, lying behind it and to the right. When both of these masses had been extracted it was found that a fibro-myomatous tumor of the left ovary, as large as a large orange but much flattened, was also present. In order to free the pelvis the child was extracted through the uterine wall, and so firmly was the head wedged in the pelvis that it required all the force we could exert to pull it out. The placenta was loose in the uterine cavity and the amniotic fluid was full of liquid feces. A piece of wide tape and a Keith pedicle clamp were used to check the hemorrhage temporarily, and the tumors and uterus were removed. The vessels were isolated and ligated and the wound was closed by coaptating its surfaces with a line of deep sutures and then covering everything with peritoneum, so that no raw surfaces were left.

The woman was walking about on the twelfth day, contrary, of course, to my instructions, and she has since made an uninterrupted recovery.



Examination of the specimen showed that gangrene had begun. The fluid in the tissues had a foul smell and had become turbid, and had the uterus not been removed the patient would have died. The notes of this case are presented as a plea for removal of the uterus in cases of suspected poisoning of the uterus.

## A SIMPLE REMEDY FOR ENURESIS.

By JAMES F. PRENDERGAST, M. D.,

PHILADELPHIA.

ENURESIS, we might say, has been playing football with the medical fraternity for generations. It has also upset many a well-matured scheme of remedies for its cure. Many anxious mothers have lain awake nights devising ways and means for saving their bedding from a drenching. Many an unfortunate child has been threatened, coaxed, cajoled, flattered, bribed, reasoned with, and spanked until its fundament was as red as a coal of fire and almost as hot, but all to no purpose; it would still wet the bed.

In looking over the literature of enuresis, one is struck with the great similarity of ideas in causation and treatment, and in the number and variety of the drugs recommended for the cure of the condition, much to the confusion of the young practitioner, as those who have had any experience know perfectly well that nine out of every ten of the drugs so recommended are perfectly worthless. I might ask, at this point, Why is it that men of standing will go on advocating the use of drugs for this trouble which they must know are worthless? And, in fact, for every other disease a like condition exists. It looks very much like a total lack of originality or a patient investigation of facts, or possibly a slight lack of candor for the sake of a little notoriety or advertising. However, that is another story and will keep.

When I was appointed visiting physician to St. John's Orphan Asylum, one of the problems which presented itself to me was the treatment of enuresis nocturna. I did not feel like starting out and trying almost every drug in the pharmacopœia, knowing full well that failure surely stared me in the face. I did a heap of thinking and some reading, with but little satisfaction.

In talking over the subject with the sister in charge—an extremely bright woman and a close observer—I suggested dieting the refractory ones, and ordered one or two simple remedies. Shortly after this, the sister informed me that she thought cold bathing had benefited some of the boys. Here was a suggestion. Why not systematically carry it out? I immediately instructed the sisters in charge of the boys to give every "bed wetter" a cold shower bath or a cold douche every night before putting him to bed. Some of the sisters very naturally felt timid about doing it, saying it would kill the children, give them pneumonia, colds, etc.; but I assured them to the contrary, and that I would be responsible for any injury it would cause the children.

The cold douching was at once put into practice, and has been carried out faithfully ever since, now eight months. Now as to the results, to my mind they have been remarkable. During the past winter eighty boys have been treated with the cold douche, and of this lot only five were being bathed regularly by the latter part of March, and these were only occasionally wetting the bed. From eighty to ninety per cent. of the cases have been completely cured up to the present time, and the other patients have been greatly benefited—that is, they only occasionally forget themselves—not a boy in the whole lot but was improved by the bathing. Two lads—bright, healthy looking, and of nervous temperament—took three months of persistent douching before any impression was made on their spinal centres; but they are now almost cured of the habit—that is, they relapse occasionally, particularly in a change of weather. The phlegmatic type and the pale, anæmic, "lack-of-tone" type were also rather hard to make an impression upon, but all responded in time to the douching.

During the whole course of treatment not a boy was placed on special diet; they ate whatever was served at meals, drank tea at supper, and had as much water as they wished. Not a drug of any kind was given and not the slightest attention was paid to any peripheral causes, such as a long foreskin, tight prepuce, condition of the urine, etc., so that the test was a thorough one. One of the boys had been circumcised a year previous to the cold-water treatment without benefit, but was cured in two weeks by the douching. One very nervous lad was completely cured with one bath, probably owing to the shock and the profound mental impression. One of the cases cured was that of a feeble-minded boy eleven years of age; he is mentally so deficient that it has been impossible to teach him the alphabet after four years' attendance at school, so that mental impression does not wholly account for the cure.

The method employed in treating the cases was as follows: The boy was stripped and placed standing in an empty bath tub; a basin, or a vessel with a spout to it, like a watering can, was filled with cold water and poured over the shoulders and down the back of the subject. In the nervous, delicate children, one dash of water was sufficient for an application; in the sluggish, phlegmatic lads, the dose might be repeated. The boy was immediately rubbed down, dressed in his night clothes, and put to bed. From a hygienic point of view the cold water has proved an excellent tonic; not one of the eighty boys has had a "cold" the past winter. A number of the boys treated suffered from incontinence of urine during the day, but all have been cured. Occasionally we have a backslider whose spinal centre takes a "nap," but it is at once put on guard by a douche or two. The ages of the boys ranged from six to twelve years, and we have four hundred and eighty-five in the institution. Since starting this article, I have learned an important point in carrying out this treatment: it is, that sponging the

back with cold water does not have the same effect as the douching. A private patient brought her boy to me for treatment for this condition. I ordered the cold douching, but the mother, from false motives of sympathy for the child, objected, and compromised by sponging the spine with cold water. She informed me two weeks afterward that cold sponging had had no effect, but that six cold douchings with a fountain syringe had cured the boy; this was a month ago, and the child has not relapsed yet. From this I would judge that the shock of the cold water is one of the important elements in the cure of the condition.

These are the facts; now as to the theory of how our cold douching does good. The centre which controls micturition is situated in the lumbar cord, and by stimulating this centre with our cold douching, followed by a brisk rubbing, we not only act directly on our nerve centre controlling the bladder and sphincter, but by stimulating the circulation we add "tone" to the whole nervous and muscular systems, and the shock producing a profound mental impression, in this way we reach the higher centres in the brain, and what has heretofore been an automatic or involuntary act becomes an act of volition or a voluntary one; in other words, it is subject to the control of the will.

Another thought suggests itself here, and that is, a great many children in our institutions, and a fair proportion out of them, from lack of proper training, have not been taught to exercise control over what was in infancy an automatic or reflex act, and the bed-wetting habit becomes firmly established, hence we must stimulate the nervous and muscular systems in order that they may properly exercise their functions. It is a well-established physiological law that the development of any centre or organ depends upon its receiving its due share of exercise, and that it receive its normal amount of stimulus to act properly. In our enuresis cases—at least a large majority of them—the cold douching furnishes the necessary stimulus, and our inhibitory centre very quickly learns to perform its work normally and exercise control over the bladder.

There is during childhood a lack of development of the centres of inhibitory reflex acts, and in this way the muscular fibres of the bladder, having no inhibitory restraint, are excited to action by even a small quantity of urine in the organ. For this reason enuresis is a normal condition in infancy, and ceases when the child's inhibitory mechanism is more developed. The inhibitory influence of the will is in abeyance during deep sleep, hence nocturnal enuresis is more frequent than diurnal.

Reflex enuresis may be caused by irritation in any portion of the genito-urinary tract, such as calculus, cystitis, vulvitis, phimosis, masturbation, acid urine, overdistention of the bladder, etc. In a large number of enuresis cases the children are of a highly nervous temperament, but the contrary holds true. It will be found that downright laziness and indifference is the

cause in a proportion of the cases. Cold douching is the remedy *par excellence* for this class.

"Rachford states that this condition may depend upon (1) irritable and unstable nerve centres, (2) anæmia with malnutrition, and (3) reflex stimulation of certain nerve centres in the lumbar cord." The causes which produce enuresis may act in two ways, either directly on the centres in the lumbar cord, making them more irritable or unstable, and in that way increasing their reflex excitability, or indirectly through exaggerated reflex causes that affect both accelerator and inhibitory influences sent to the bladder. These influences may originate in the brain or may be the result of external irritation in or near the bladder itself. In any diseases which are accompanied by anæmia and malnutrition the reflex irritability of the lumbar nerve centres is much increased, and enuresis may result.

Von Zeissl shows how reflex causes may start or check the flow of urine. Thus a reflex carried to the proper centre in the cord would, through the motor fibres of the erector nerve, contract the muscular coat of the bladder, and through the inhibitory fibres of the same nerve relax the sphincter vesicæ.

SUMMARY.—We find, in looking over the different theories as to the cause of enuresis, that the great majority of the cases are due to lack of "tone" of either the muscular or nervous systems, and the treatment indicated is to "tone up" the parts at fault and increase nutrition. This we do by our cold douche to the spine, followed by a brisk rubbing, and by giving tonics; the best combination being strychnine, iron, and quinine in doses suited to the patient's age. Diet is also an important point in the treatment of private patients, though we did not diet our patients at St. John's Orphan Asylum; allow only light suppers; tea and coffee should be forbidden. There is another class of cases in which some trouble will be found to exist along the genito-urinary tract. The indications here are to remove the cause and stimulate the nerve centres to exercise proper control over the bladder. I do not expect that we shall meet with the same success in private practice as I have had at the asylum, as mothers, from false ideas of sympathy, will not follow out instructions and do the douching properly. But for our institutions the remedy, I feel certain, will give far better results than any other that has been suggested. I do not wish to appear extravagant in my allegations for the treatment which I here suggest. I am simply giving my results, and have the name and age of every boy treated. I shall continue the douching and report the results after another winter season, as the results reported were obtained from November to April. Since beginning this article, I have heard of a case of enuresis in a young lady that was cured by placing an ice-bag to her spine over the lumbar region. I would suggest that this be tried by some physicians in our large institutions, and also that they try electricity, as slight electric shocks may have the same effect as the cold douchings.

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COCAINE POISONING.

THE *Therapeutische Wochenschrift* for June 21st remarks upon the extraordinary variability of the symptoms in cases of cocaine poisoning. There may be intellectual torpor, tonic or clonic convulsions, or maniacal exaltation. Respiratory disturbances are particularly intense; the breathing is shallow, in severe cases it may be of the Cheyne-Stokes type, and death may occur from respiratory paralysis. Phenomena pertaining to the circulation are less pronounced. Poisoning has been known to follow the use of so small an amount of cocaine as seventy-seven one-thousandths of a grain, and in many cases that have been reported there has been no reason to suppose that the preparation was impure or that the recognized maximum dose was exceeded; idiosyncrasy must, therefore, be assumed to have taken a part in giving rise to the results.

Our contemporary makes the foregoing remarks as a prelude to condensed accounts which it proceeds to give of four cases of cocaine poisoning. The first and second cases were reported by Dr. M. Weinrich in the *Berliner klinische Wochenschrift*. In one of them the patient, who had a tumor of the bladder, had been examined with the cystoscope several times and operated upon with the aid of that instrument and the use of a one-to-fifteen solution of cocaine. On the third day after the operation the same solution was injected, and immediately signs of poisoning showed themselves—unconsciousness, epileptoid convulsions, Cheyne-Stokes respiration, and slowing of the pulse, which was imperceptible in the wrist and hardly to be felt in the thigh. The patient was saved by means of prolonged and energetic artificial respiration. A week later there was occasion to use an injection of half the strength of the preceding ones, and no signs of poisoning showed themselves. Dr. Weinrich's other patient was a man eighty years old. Similar phenomena of poisoning were observed after a urethral injection of a two-to-thirty solution of cocaine.

The first case is remarkable, says the *Wochenschrift*, from the fact that the cocaine had been used six times

without any ill effect, and then on the seventh occasion, without there being any condition especially favorable to absorption, severe poisoning resulted. It seems that the mucous membrane of the urethra absorbs drugs more readily than that of the bladder, the writer goes on to say, but it may be assumed that the vesical mucosa absorbs them more readily when it is diseased than when it is healthy, on account of losses of epithelium, etc.

The third case was reported by Dr. E. Pfister, of Cairo, in the *Berliner klinische Wochenschrift*, 1896, No. 14. The man had suffered with retention of urine a number of times in consequence of vesical calculi. He received an injection of a twenty-per-cent. solution of cocaine into the bladder, and died almost immediately. A Pravaz's syringe, the writer remarks, will hold four times the amount of such a solution as would contain the maximum dose of cocaine, and it is probable that in this case a still larger syringe was used, for only thus can the lightninglike rapidity with which the drug acted be explained. Nevertheless, our contemporary makes the suggestion, somewhat imaginative, we think, that in consequence of prolonged retention of urine *the urethra had become dry*, and therefore absorbed the cocaine with special rapidity!

The fourth case was observed by Dr. G. Duchesne, of Orbec, and reported in the *Année médicale de Caen* for 1896. A man thirty-eight years old had two injections of cocaine into the gum, in order to have a tooth extracted without pain. On the following day he had oedema of the lids of each eye, especially of the upper lid, which increased for forty-eight hours and then subsided entirely. Repeated examinations of his urine showed no trace of albumin. In this case, our contemporary thinks, there was probably a vasomotor paralysis in consequence of the action of the drug on the terminations of the inferior dental nerve, which is a branch of the inferior maxillary, or of a part of the trigeminal, which by its ophthalmic branch of Willis is in close connection with the skin and the mucous membrane of the lids.

Great caution must be observed in the use of cocaine within the urinary passages, says the writer, but the capricious action of the drug is as difficult to guard against as that of chloroform. The use of cocaine is contraindicated in anæmic persons and in those that are the subjects of respiratory or circulatory disease. When cocaine poisoning occurs, amyl nitrite and chloroform should be used, also opium and chloral hydrate for the



convulsions, but above all artificial respiration and injections of camphor dissolved in ether.

#### TRIONAL AS A HYPNOTIC.

THE use of trional as an inducer of sleep is now no novelty, and probably there are few of our readers who have not resorted to it on many occasions with satisfaction. Nevertheless, it is well to note what so capable an observer as Dr. Richard Drews, of Hamburg, has to say about it. In an article which appeared in the *Wiener medicinische Presse* for April 1 and 8, 1896, and is summarized in the *Wiener klinische Rundschau* for June 21st, Dr. Drews remarks upon the frequency with which the physician finds it his chief task to secure for the patient a few hours of quiet sleep, so that he may not only be freed from distress for the time being, but supplied with fresh endurance to battle with the disease. For this purpose a hypnotic is required that is easily taken, that promptly induces restful, dreamless, normal sleep from which the patient awakes refreshed and strengthened, that is harmless and as free as possible from unpleasant collateral and remote effects, that does not beget a habit, and that can be taken for a long time.

Judging of trional by its action in thirty cases, Dr. Drews thinks it such an ideal hypnotic. Nineteen of the patients were adults, and eleven were children. The causes of sleeplessness in the adults were neurasthenia once, hysteria twice, a phlegmon of the hand once, articular rheumatism twice, muscular rheumatism once, sciatica three times, prurigo once, trigeminal neuralgia once, a scald of the foot once, intercostal neuralgia twice, cancer of the uterus once, and pulmonary and laryngeal tuberculosis with severe paroxysms of coughing and profuse sweating at night three times. In the children they were otitis media three times, meningitis with convulsions once, chorea once, night terrors twice, epilepsy once, intestinal catarrh with convulsions once, pneumonia with severe agitation once, and furuncle of the ear once. For the adults, the dose ranged from fifteen to twenty-two grains; for the children, from three to twelve grains, according to the age. It was administered in strict accordance with Goldmann's directions. The adults took it in bed in a cup of hot milk, and then drank another cup of milk; the children took it in their evening broth or in a cup of hot tea. In cases accompanied by severe pain twenty-two grains were always given to the adults instead of fifteen grains.

In twenty-eight of the cases the result was invariably a restful, calm, natural sleep coming on in the course of fifteen or twenty minutes, and on the following morning the patients felt refreshed and as well as the nature of the disease admitted of. In two of the cases, that of phlegmon of the hand and that of cancer of the uterus, the hypnotic action was delayed for an hour or an hour and a half, and did not last for from six to eight hours, as in the others, but only for three or four hours. Both these patients were sleepy the next morning and complained of oppression in the head, of headache, and of weakness, and the one with uterine cancer suffered also with ringing in the ears and with nausea. These phenomena occurred for several days, after each administration of trional, but strict questioning brought out the fact that it had not been taken in the precise manner prescribed.

#### MINOR PARAGRAPHS.

##### A MUNICIPAL EXPERIMENT IN THERAPEUTICS.

ONE of the New York city departments has been dabbling in therapeutics for some weeks past. A ward in Bellevue Hospital has been set apart by the Department of Public Charities for the treatment of dipsomaniacs by a physician who professes to cure the drinking habit. He is not a member of the medical board of the hospital; moreover, the members of the house staff are not allowed to appear in the ward, so we are informed, and there is no provision for the treatment being supervised or even observed by any medical officer of the hospital. The whole affair seems to be an experiment on the part of the department. The medical profession, and especially the medical board of Bellevue Hospital, ought to protest against such a perversion of the powers of a municipal department. It is intolerable. We say this without any prejudice or animus against the physician who has thus been dignified, but on general principles.

##### THE JOURNAL'S NEW DRESS.

WITH last week's issue, the first number of volume lxiv, the *Journal* appeared in a new typographical dress. The print, it will be seen, is somewhat larger than before and more easily read by him who runs. There are many physicians who do a great part of their reading while they are on their daily round, and it is more convenient for them to take along a journal than a book. They will appreciate the change. A further advantage is that each issue is to be printed from new type—type actually made in the process of composition—so that the print is expected to be as clear months or years from now as it is in this number. This, however, applies only to the text, not to headings, foot-notes, and tabular matter.

##### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for

the following statement of cases and deaths reported during the two weeks ending July 7, 1896:

DISEASES.	Week ending June 30.		Week ending July 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	13	2	15	3
Scarlet fever.....	64	6	70	7
Cerebro-spinal meningitis....	1	2	2	3
Measles.....	172	13	149	7
Diphtheria.....	232	33	237	37
Tuberculosis.....	177	119	115	121

**The Pronunciation of Greek.**—Dr. Achilles Rose has furnished us with the following translation from the *Acropolis* for May 11th (24th): "The minister for public instruction, on the occasion of the measures taken recently in France for the abolition of the Erasmian pronunciation and the introduction of living Greek pronunciation for the teaching of ancient Greek, and in consequence of representations of our ambassador in Berlin, Mr. Cleon Rangabis, appointed a committee consisting of Mr. G. Mistrioty, Mr. Th. Papadimitracopoulos, Mr. G. T. Typaldos Kosakis, Mr. G. Kalostypus, Mr. G. Kambouruklos, Mr. G. Hatzidakis, Mr. G. Kofinotis, and Mr. Sypridis Sakelaropoulos, who, under the presidency of the minister of public instruction, will proceed to prepare a memorandum containing, first, the reasons in support of the correctness of the modern Greek pronunciation; second, the advantages which foreign students will have in understanding modern Greek; and, third, directions to the representatives of Greece abroad in regard to their action in the matter."

Dr. Rose has also sent us the following translation from the *Acropolis* for May 12th (25th): "The news which was published by us yesterday concerning the appointment of a great committee whose aim is to be to prepare a scientific work by which the Erasmian pronunciation, which is taught in several parts of the civilized world, will be abandoned for the real one through which we now understand each other in Greece, is very important in every respect. The committee which has just been established has the following history: The ambassador of Greece, in Berlin, Mr. Cleon Rangabis, some years ago, when he served as *chargé d'affaires* of Greece at the Court of St. Petersburg, approached the Russian government concerning the change of the system of teaching the Greek language. He was sufficiently successful in this, because he found the Russian government to be well disposed to it. Now he has made the same efforts in Germany and, after the raising of this question about the abandonment of the Erasmian pronunciation in France, he writes to the minister of public instruction, asking to be assisted in this important matter concerning our language. Immediately the minister of public instruction, recognizing the importance of the proposition of Mr. Rangabis, appoints a committee, which will busy itself in the preparation of a long statement in which there will be given the reasons why the real pronunciation of the Greek language is the same which the modern Greeks employ. Thus the question has two aspects: 1. The preparation of a scientific work, that is, a statement showing that the Erasmian pronunciation is not the pronunciation of the ancients. 2. Diplomatic action in order that the government, too, may accept our propositions. The minister of public instruction considers the question a most important one, since many things depend on its favorable solution. He exchanged views with the Prime Minister, who accepted

his opinion and promised to help him in the matter. Mr. Hatzidakis, professor of comparative philology in the University of Athens, the celebrated linguist, will prepare the work."

**The Albany Medical College**, which is the medical school of Union University, will enter upon its next session, beginning on the 29th of September, with its resources very materially enhanced by the Bender Hygienic Laboratory, a handsome and substantial building which is expected to be ready in the autumn. It has been generously given to the college by Mr. Matthew W. Bender, of Albany. It will be equipped with the necessary appliances for the practical study of histology, pathological anatomy, and bacteriology. It is announced that the laboratory will be under the charge of Dr. George Blumer, formerly an assistant in pathology and bacteriology in the Johns Hopkins University. We congratulate the college on this fresh evidence of its prosperity and enterprise.

**The International Congress of Dermatology.**—The following announcement has been issued by the secretary, Dr. George T. Jackson: There will be a museum containing drawings, casts, models, naked-eye preparations, microscopic specimens, and work and atlases pertaining to diseases of the skin. An exhibition of patients, and demonstrations of the same, will also be given. All those who desire to contribute to this department will please address Dr. James Galloway, 21 Queen Anne Street, Cavendish Square, W., London. There will be an exhibition of cultures and microscopical preparations of organisms connected with the skin and its diseases. Any communications in regard to this department should be addressed to H. G. Plummer, Esq., Wunderbau, Sydenham, London. Information in regard to hotels will be furnished on application to George Pernet, Esq., 77 Upper Gloucester Place, London, N. W.

**The French Surgical Association.**—The tenth meeting of the Association française de chirurgie will be held in Paris from the 19th to the 24th of October, under the presidency of Professor Terrier. The inaugural session will begin on Monday, October 19th, at two o'clock. Subjects for discussion are announced as follows: The Surgical Treatment of Clubfoot (Dr. Forgeue, of Montpellier, reporter); The Treatment of Genital Prolapses (Dr. Bouilly, of Paris, reporter). Members are requested to send, by the 15th of August at the latest, the titles and conclusions of their papers to the secretary general, M. le Dr. Lucien Picqué, rue de l'Isly, Paris, who may be addressed for any information concerning the congress.

**An Ether Prize Fund for the Boston City Hospital.**—The Trustees of the Boston City Hospital have received a gift of \$1,000 from Mr. Townsend W. Thorndike under the following conditions: "I wish to give \$1,000 to the Boston City Hospital to found the 'Herbert L. Burrell ether prize fund,' from the interest of which a prize of \$20 shall be given semiannually to the surgical house officer who administers ether in the most skillful and humane manner. Only surgical house officers of the Boston City Hospital shall be eligible in competition for it, the award to be made by three judges to be appointed by the superintendent of the hospital and senior surgeon. In case no officer is considered worthy of the prize, the interest shall be added to the principal. Should the principal increase to such an amount as shall be con-



sidered sufficient to warrant the offering of a second prize of lesser amount, such a second prize shall be established, and shall be known as the 'William H. Thorndike ether prize.'"—*Boston Medical and Surgical Journal*.

**Creolin.**—This popular antiseptic agent has been generally accorded entire freedom from toxic effects, but, in the light of some recent experiments upon lower animals, this superiority must be called in question. Professor Hobday, of the Royal Veterinary College, England, reports in the *Lancet* that two ferrets subjected to applications of the drug, diluted with water in the proportion of two ounces to a quart, died in half an hour. Subsequent investigation proved it to be an irritant and narcotic poison to both dogs and cats, especially when applied over a considerable area of the body. Such a report emphatically suggests caution in treating extensive wounds upon the human body with creolin as a dressing.—*Medical News*.

**Change of Address.**—Dr. Bruno Getzlaff, from Wapakoneta, Ohio, to Attapulga, Georgia (temporary).

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 28 to July 3, 1896:*

ALEXANDER, CHARLES T., Colonel and Assistant Surgeon General, is granted leave of absence for two months, to take effect on or about July 8, 1896, or as soon thereafter as practicable.

DAVIS, WILLIAM B., Captain and Assistant Surgeon, will, in addition to his present duties, take charge of the Medical Supply Depot in New York city during the absence on leave of ALEXANDER, CHARLES T., Colonel and Assistant Surgeon General.

**Naval Intelligence.**—*Changes in the Medical Corps of the United States Navy for the Week ending July 4, 1896:*

ARNOLD, W. F., Passed Assistant Surgeon. Detached from special duty in China and Japan and ordered to return home.

BOGERT, E. S., Passed Assistant Surgeon. Ordered to the New York Navy Yard.

CRAIG, T. C., Passed Assistant Surgeon. Detached from the New York Navy Yard and ordered to the marine rendezvous, New York.

HIENBERGER, L. G., Surgeon. Detached from the marine rendezvous, New York, and ordered to the hospital, Widow's Island.

PARRISH, H. F., Assistant Surgeon. Ordered to the Naval Laboratory, New York city.

#### Society Meetings for the Coming Week:

MONDAY, July 13th: Gynecological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society.

TUESDAY, July 14th: Medical Societies of the Counties of Chautauqua (annual), Clinton (semi-annual—Plattsburgh), Greene (quarterly), Jefferson (semi-annual—Watertown), Madison (annual), Oneida (quarterly—Utica), Ontario (annual—Canandaigua), Rensselaer, Schuyler (semi-annual), Tioga (Owego), and Wayne (annual). N. Y.: Richmond Academy of Medicine and Surgery; Norfolk, Mass., North District Medical Society.

FRIDAY, July 17th: Brooklyn Medical Society.

## Births, Marriages and Deaths.

### Married.

GREENING—SCHEEN.—In Coushatta, Louisiana, on Tuesday, June 30th, Dr. R. C. Greening and Mrs. L. Scheen.

JOHNSON—HOTCH.—In College Park, California, on Wednesday, June 24th, Dr. Joseph Newton Johnson, of San José, California, and Miss Cora May Hotch.

PETERSEN—BECK.—In Jersey City, on Tuesday, June 30th, Dr. John Petersen and Miss Christina Beck.

PFISTER—GOFFE.—In Montclair, New Jersey, on Tuesday, June 30th, Dr. Carl Pfister, of New York, and Miss Helen Goffe.

STILWELL—CLEMENTS.—In Kansas City, Missouri, on Friday, June 26th, Mr. William Elmer Stilwell and Miss Alice M. Clements, daughter of Dr. Joseph Clements.

### Died.

BROWDER.—In Gallion, Alabama, on Sunday, June 28th, Dr. James R. Browder.

WELLES.—In Tarrytown, N. Y., on Wednesday, July 1st, Julia C. Welles, wife of Dr. Frank M. Welles, of New York.

## Letters to the Editor.

### THE EARLY DETECTION OF THE LINE OF DEMARCATION IN CASES OF GANGRENE.

POSERET, CONN., July 6, 1896.

To the Editor of the *New York Medical Journal*:

SR: I am accustomed to make use of a faradaic battery to determine the future line of demarcation on limbs in which large vessels are occluded, which in selected cases has been of so much practical importance and is of such simple application I will describe it. If one pole of a faradaic battery is held firmly in position near the extremity of the limb, and the other pole is passed up directly toward the body, the patient will immediately flinch when the sponge passes the point where the line of demarcation will form. By passing the pole at points a quarter of an inch apart until the whole circumference of the limb is covered, the line can be accurately marked out. In cases where the heart's impulse is so weak that one is in doubt whether or not pulsation can be felt, when the artery runs near the surface, this expedient is especially valuable, as an earlier operation can be decided upon and much of the patient's vitality can be saved which would be lost were we to wait for the line to show on the integument.

As an illustration, I will give a synopsis of the following case:

C. M., a French woman, married, twenty-nine years of age, was admitted into the hospital on October 9, 1895. She had been discharged from a neighboring hospital as incurable; the diagnosis was "caries of the spine." Her family history was negative, and she gave no history of traumatism.

She was emaciated and had hectic, her temperature was 103.5° F., her pulse weak, 98, she had no appetite, she was constipated, her heart was weak, her lungs were normal. Evidently she was syphilitic. The anterior



superior spinous process of the ilium was protruding through the skin and covered only by muscular attachments, and there were sinuses extending from the process through the groin to the symphysis pubis and several also opening on the anterior aspect of the thigh. The diagnosis of caries of the spine was doubted, but I could reach nothing with a probe to settle the question. The sinuses were slit up under ether and the hand was passed over the iliac muscles, which appeared in normal condition. On following the crest of the ilium from behind forward, a necrosed area was found two inches and a half posterior to the spinous process. An incision was made over the crest of the ilium and bone two inches in length and an inch in depth removed. A drainage tube was inserted and the wound healed satisfactorily. The patient gained in flesh and strength and there was no rise of temperature four days after the operation.

On November 1st my service ended. When I took up the service again in March, I found the same patient with a temperature of 103°, the wound in the groin well healed, pain in the leg, and a dark spot over the os calcis, and one over the metatarso-phalangeal joint on the outer side of the foot. I ascertained the line of demarcation with the battery (as described), as her general pulse was so weak that I could not determine whether there was pulsation in the popliteal space or not. The line ran below the tubercle of the tibia anteriorly and two inches above the popliteal space posteriorly. Amputation at the middle third of the thigh was performed, and the patient was discharged, cured, on June 1, 1896.

S. BURDEN OVERLOCK, M. D.

## Proceedings of Societies.

### SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

*Meeting of May 6, 1896.*

The President, DR. R. C. NEWTON, in the Chair.

(Concluded from page 23.)

**O'Dwyer's Tubes.**—DR. PROBEN presented some instruments that Dr. O'Dwyer had been working on since 1869. The primitive experiments had dated from the introduction of a catheter through the nose into the larynx; these, however, could not be retained for any length of time or could not be kept clean. Later, a tube had been constructed on the principle of a bivalve, but here the difficulty of constructing a spring which would exert the proper pressure had been almost an insurmountable one. If the blades were too loose, apnea would occur; if too tight, ulceration would set in, and the open spaces allowed of protrusion of the mucous membrane. O'Dwyer had constructed four different bivalve tubes, each somewhat modified. The fifth instrument had differed from the four preceding, in that it had been a tube, not a bivalve, with an upper part called the head, and an opening posteriorly for dislodging it when *in situ* by an extractor. This latter instrument was shown. The tube was from the first recorded case of recovery from intubation (May, 1884). The uniform calibre of the tube would not have kept it in the larynx had it not been for the posterior buttonhole, which allowed the mucous membrane to protrude and thus firmly hold it. This had been modified so that the buttonhole

had been eliminated and the head somewhat reduced in size, in order to prevent the ulceration of the epiglottis. The tubes had been increased in length, a shoulder substituted for the vocal cords; but the tubes would protrude from the larynx during coughing or swallowing, and had to be pushed in place by the finger. In order to overcome this difficulty, and it was said by O'Dwyer that this was the solution of the most intricate problem, an expansion of the middle of the tube had been necessary. Numerous experiments had had to be made in order to determine the proper relation to the tube proper, and the proper sizes according to age, which had been finally crowned with success. An improper tube produced ulceration at the base of the epiglottis, at the cricoid cartilage, and at the distal extremity of the tube. The latter had been overcome by rounding the lower edge of the tubes. A number of instruments were presented, showing the primitive extractor and introducer, with the most modern instruments. All these improvements had been made by O'Dwyer himself, with not a single suggestion from anybody, and too much credit could not be bestowed upon one whose name was now known throughout the world. A tube with a loose epiglottis was also shown. The speaker spoke of the large cylindrical tubes which served for the exit of dislodged membrane, but said that, owing to their size, they were left in place only a few hours.

Dr. Proben also presented a set of tubes for forced artificial respiration. O'Dwyer's laryngeal tubes were conical, and were the outcome of Fell's method. Wood had found that in dogs, when respiration failed in ether or chloroform narcosis, by introducing a tube into the trachea he could bring back the respiration and cardiac beats. O'Dwyer had worked upon the principle of completely clogging up the larynx by means of a tube, at the same time using pressure and forcing the air into the lungs, and in that way distending them. This was a direct method of artificial respiration, and had come into use in some of our New York hospitals. Its applicability to narcosis from chloroform, opium, etc., showed it to be the most successful method in use. The tube was introduced into the larynx, tightly plugging at the cricoid cartilage, and connected with a pair of bellows, and the air was forced into the lungs at the rate of twelve to twenty times a minute. Care should be taken to prevent the possibility of mucus or blood going into the lungs, and where there was bleeding from the buccal cavity the tight fit of the tube prevented this. The pressure of the bellows should be regulated according to the vital capacity of the chest, and, in order to prevent a drying of the mucous membrane, it was passed through a receptacle containing a sponge wet with water. Probably the future would show that another inlet containing oxygen would be of decided use.

Dr. JOSEPH E. BISSELL spoke of having seen the last instrument work several times. One case he remembered, that of a young girl brought in with morphine narcosis. She had taken twenty grains of morphine, and when the speaker saw her her respiration had about stopped and no pulse-beats could be detected. The apparatus of Dr. O'Dwyer had brought her back; she had recovered consciousness completely, and had been able to talk coherently, but she had died in the next twenty-four hours, of pneumonia. The second case had been about the same, which had also terminated fatally, probably by pneumonia. He remembered Dr. O'Dwyer saying that he hoped to perfect the apparatus so as to prevent the introduction of unfiltered air.

Dr. F. W. MERRIAM asked the previous speaker if, in another case, he would use the apparatus; and whether the pneumonia was not due to cold air introduced into the lungs.

Dr. BISSELL stated that he would do the same thing again. There had been great exposure before the patient had been brought to the hospital, which might have allowed the development of the pneumonia.

Dr. RUPP said that an injustice was done Dr. O'Dwyer when Bouchut was given too much credit for the idea of intubation. Dr. O'Dwyer by persistent study had brought the idea of intubation to that state of perfection which allowed all the credit to be given to him for having made intubation not only practicable but successful.

Dr. PROBEN said that a number of cases of deep opium and chloroform narcosis, where the respiration and cardiac beats had been scarcely perceptible, had been successfully treated. In others, again, the patients had been kept alive for over twenty-four hours. It was surprising how the respiration could be absolutely controlled by the lever of the bellows; this might also be said of the cardiac beats in some cases.

**Sudden Death and the Coroner.**—Dr. JOHN B. HUBER read a paper on this subject (see page 12).

Dr. RUPP stated that much of the practitioner's uncertainty concerning his relations to State and city officials would be done away with if medical colleges would attend to so important and practical a matter, which concerned not only the practitioner's peace of mind, but the honor of our profession in the estimation of the public and officialdom. Concerning Dr. Huber's remarks on the relation of thigh fractures to the death of old people, the speaker mentioned a case that had occurred in his practice, which had shown with what scant respect the practitioner was treated by those "in authority." A death certificate had been made out with the thigh fracture as a remote cause leading to the immediate natural causes of death. The thigh fracture had been sustained months before death occurred, and had been mentioned in the certificate for the benefit of the statistics of the health board. Months after this old woman had been buried, her son had met the speaker on the street, and had said that the certificate had not been accepted, that the health board had given the case to the coroner, who in turn had given his own certificate. The practitioner had been entirely ignored. Instances were constantly taking place which demonstrated clearly enough that the practitioner was not dealt with by health and coroner's officers with that amount of respect and circumspection which were his due. If health and coroner's officers communicated directly with the practitioner, instead of indirectly through his patients, much folly and injustice would be avoided, and the proper and true status of the profession would be maintained in the estimation of the public.

Dr. JOHN L. ANDREWS asked in regard to the relation of the physician to the authorities in cases of abortion, and whether before a case was touched the physician should have another physician see the case, in order to protect himself. He spoke of a case last winter in which two reputable physicians had examined a case of puerperal sepsis due to abortion; they had been arrested, brought to court, and caused considerable trouble, yet they apparently had taken all the steps necessary to protect themselves. On the other hand, if they went still further and reported the case to the coroner before death, or when they took charge of it, and the patient

recovered and the case became public, the physicians were liable to be sued for damages to the patient's reputation. If, however, they did not report it, and the patient died, they were liable to be investigated by the coroner. He asked what course physicians could pursue in order to protect themselves.

Dr. F. W. MERRIAM spoke of two cases of his, occurring in children who had died suddenly; they had had convulsions, and had never come out of them. On the certificates he had given "convulsions" as the cause of death, and they had been sent back, with the report that it would not do. The speaker had reported to the board of health that he did not know what the children died of; the convulsions might be the forerunner of scarlet fever, meningitis, or something else; he could make a guess as well as the coroner. He remembered one case where the coroner had assigned "measles."

Dr. RAMON GUITERAS asked the writer of the paper his opinion as to the best thing to do if a physician was called to see a case in which the patient did not confess abortion, and where, after examining, he thought an abortion had been performed.

Dr. BROOKS H. WELLS said, in regard to reporting cases of abortion, he thought that, unless the physician was certain the patient was going to die, it was not his duty to notify the coroner. The first duty of the physician was to the patient. If a case came to him that was septic, it was his duty to cure. If he suspected criminal interference, he could always do any operation necessary, in the presence of one or two witnesses, which would protect him.

Dr. CARTER S. COLE stated that he had found, on inquiry at the district attorney's office and from consultation with the coroner, that physicians were bound by the law only to report cases in which death had occurred as the result of criminal interference; the law did not compel the physician to report his suspicions unless death ensued. He thought every man would be able to protect himself in cases of suspected abortion by getting a written statement from the patient signed in the presence of witnesses, and in case of death handing it to the coroner in the place of an ante-mortem statement. As to cases of suicide, he believed that the position taken by Dr. Tuttle that a coroner was not compelled to give a report of cases to the public press was the right one, and that the profession owed him a debt of gratitude. If such a report would be of value to the public in general; if it would prevent crime; if it would prevent the commission of suicide to go into the details of a case, it might be proper. In the case he had recently been connected with there had been no reason for making it public. The patient had been insane, and during her insanity had taken up a razor and cut her throat. She had been living in a furnished apartment with no one but her son. She had been raised in luxury: the only thing they had left of their former estate had been their pride; and it was very little to ask that as little publicity be given to it as possible. The speaker had stated the case to Dr. Tuttle, who had agreed with him that there had been no need of its being made public, and it had been through no fault of the coroner's that the facts had become known to the public press, and through it to the people. The fact that it became public had been due, in all probability, to the betrayal of the trust of some one concerned, and the gentleman might have a chance to answer for it yet.

The PRESIDENT said that in the State where he lived (New Jersey) there was a physician who was really the



coroner, and he had always been very considerate of the private affairs of patients, and had kept them as far as possible from publicity.

Dr. HUBER said that in regard to the law, it was somewhat conflicting. The law stated that in cases where crime was suspected, it was the duty of every citizen to notify the authorities. On the other hand, the physician, both by instinct and by the law, was impelled to keep inviolate the secrets of his patients. In regard to cases of abortion, until the physician suspected that the patient would die, he thought it would be well not to mention the subject. As a protection to himself, the physician should operate in the presence of a colleague, and in case of death from criminal abortion or as the result of crime in any other way, the best thing would be to visit one of the coroners, tell him privately the whole matter, as between man and man, and bind him to secrecy. He then protected himself, had done his duty, and did not divulge secrets in a public manner. So far as reporting the commission of crime was concerned, the law was to the effect that it should be reported. But, as a physician said some time ago, he did not intend to make himself a spy for the district attorney's office, and public sentiment would probably uphold any physician who took that view.

**Acute Otitis Media with Reference to some of its Prominent Symptoms.**—Dr. A. T. MUZZY read a paper on this subject (see page 11).

Dr. RUPP said that one mistake made by specialists when describing diseases and symptoms for the benefit of general practitioners was that the pictures presented were too clear and plain, and on those accounts could not be brought into harmony with the ordinary experience of the general practitioner. Symptoms indicating the presence of otitis were often marked in the course of pneumonia in children, and the first sign of this complication was a purulent discharge from the ear. The same might be said of scarlet fever. A child's ear was not always easy to examine, and puncturing the membrana tympani would not always give the relief which was so enthusiastically proclaimed by some teachers. But, for all this, examinations of the ear should not be neglected, and neither should paracentesis tympani be discarded when a bulging drum membrane had been diagnosed. A child might be simply restless, and it might be teething at the time, and the child's parents and nurse might want its gums cut so that all hands could sleep. The speaker had been called to see such a case this day. Although the child was restless night and day, and was teething, it was found that the restlessness was due to a subacute otitis that had nothing to do with dentition. The ear treated, the child rested undisturbed by the teething. It was not denied that the teeth gave rise to ear troubles. Otitis sometimes gave rise to pain in the region of the brow, and, if too much attention was given to such single symptoms, mistakes would be made. A physician had made this mistake in a case afterward treated by the speaker. A word or two might be said in favor of the dry treatment with boric acid, which had been so roundly condemned by some first-rate men. It was not a remedy to be used promiscuously, any more than mercury or iodide of potassium was; but no practitioner should cram the ear full of any powder unless he had diagnosed the conditions which justified its application. Properly used, boric acid powder could do no harm.

Dr. W. L. CARR said that in children often otitis would follow a disease that had depressed the child's vitality,

and it was difficult to separate the symptoms due to local inflammation. He spoke of a case he had seen in consultation, where the child had had pneumonia, and otitis had produced marked cerebral symptoms, irregular pupils, which did not respond to light, irregular pulse, and vomiting. The child had been constipated for some time. The symptoms had disappeared when the drum had been punctured. To say that from symptoms alone a diagnosis could always be made he thought would be an error.

Dr. MERRIAM said that often he was called to see children screeching with earache. One expedient he had employed was to hold the nose closed, have the child open its mouth, and blow violently into the child's mouth; it would often relieve the patient instantly. At another time hot tobacco smoke would give relief. He had used opium and olive oil, and in the last case a solution of cocaine.

Dr. COLE spoke of a simple remedy that had been suggested to him when a boy by a country physician. It was to take a small piece of sponge, tie a thread around it, dip it in very hot water, wring it out, and push it well into the canal, covering it from the air. It would give instant relief. It was applying a hot poultice directly to the eardrum.

Dr. GUITERAS said that in Cuba the great remedy for earache in children was to take one or two cockroaches and squeeze the juice of them into the ear. He asked the writer of the paper how the salt water caused otitis media; whether it was from the impurity of the water itself.

Dr. MUZZY said he thought that where the disease followed bathing it was caused by inhalation of the water more frequently than by a blow of a wave from the outside, because of the well-known impurity of the water at the beaches. Scarcely any water, except perhaps, spring water, would be free enough from germs. It was possible, and sometimes was the case, that if the nasal-pharyngeal mucous membrane was not in sound condition, its secretion might infect the ear, but the physicians he had talked with had thought that the infection came from outside material. The course of the disease in a healthy person with sufficient exciting cause was usually a perfectly clear, straightforward one. As to the dry treatment, he remembered as a student taking a patient of one of the well-known aurists in town to the mountains, with instructions to blow the ear full of boric acid every second day. He thought the dry treatment, used in moderation, first disinfecting and cleansing the ear, and then fluffing the powder in so as to make a coating for the surface, was beneficial. He spoke of a case where the patient had been previously subjected to the excessive dry treatment. His ear had been filled with powder, which, when mixed with the discharge, would crystallize, and on his next visit to the physician he would be subjected to torture while the mass of crystals was torn out. The ear would bleed profusely, and the same amount of powder would again be put in. The association of meningitis with the otitis, where it existed, was very close, and it was often difficult to tell where one disease began and the other left off. In all such cases that he had seen the otitis had come first. In regard to inflation, he advised using a Politzer bag for the purpose, as more direct, and avoiding danger to the surgeon. He thought the most beneficial wet treatment was with hot water or the heat of an onion. It was the heat of the application that was beneficial. In applying the artificial leech, we should ascertain with the finger where



the inflammation affected the interior or posterior part of the ear, and then apply the scarificator and the leech.

### Book Notices.

*Twentieth Century Practice.* An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M. D., In Twenty Volumes. Volume IV. Diseases of the Vascular System and Thyroid Gland. Volume V. Diseases of the Skin. Volume VI. Diseases of the Respiratory Organs. New York: William Wood & Co., 1896.

THE greater portion of the fourth volume of this work is devoted to the section on diseases of the heart and pericardium, written by Dr. James T. Whittaker. An historical note, commensurate with the knowledge of this subject in former days, prefaces the consideration of the various diseases of the pericardium. The different cardiopathies are described concisely, yet comprehensively enough to present the latest facts relating to them. The author has endeavored to save space by omitting references, a fact that is likely to be regretted by those who might wish to investigate certain topics at greater length than their consideration in such a work as this would allow of.

Dr. A. E. Sansom is the author of the section on diseases of the blood-vessels. This author considers that malaria may be a cause of aortitis, but it would seem to the writer that the idiosyncrasies of the individual and the effects of residence in a climate where paludism is prevalent are more likely to cause the disease of the artery than the *Hæmatozoon malaria* or the toxins it may elaborate. Certainly the experience of Sir Joseph Fayrer, Laveran, and others who have resided where paludism is rife does not support Dr. Sansom's view. The author accepts the conclusions of Hippolyte Martin that inflammation of the *vasa vasorum* is primarily the cause of local infiltrations and fatty degenerations of the aorta; yet he holds that chronic aortitis may be due to a senile change, or to muscular over-exertion, or to gout, or to excess in alcohol, tobacco, or eating or drinking. On page 473, where the remark might be overlooked, he writes in regard to these supposed ætiological factors: "I believe those changes to be really secondary to lesions of the nutrient arteries of the vessel wall and to the invasion of the deeper layers of the internal coat by the oval and round cells, though this is difficult to demonstrate." While the difficulty of demonstration is undoubtedly real, yet the trend of pathological investigation supports the proposition. In the section on treatment Dr. Sansom cautions the reader about trinitrin, as his experience has shown him that there "is a nitroglycerin mania just as there is a morphomania."

Dr. Sansom concludes that atheroma is the result of an insoluble particulate material that blocks the *vasa vasorum*, and arteriosclerosis is due to a soluble and diffused poison that affects the internal or the external coat of the vessel. The entire chapter forms an excellent survey of the diseases of the arteries and veins.

Dr. Bertrand Dawson is the author of a section on diseases of the lymphatic vessels that satisfactorily presents our most recent knowledge in regard to morbid processes involving that system.

Dr. George R. Murray is the author of the section on diseases of the thyroid gland, including myxœdema, cretinism, exophthalmic goitre, goitre, and acute thyreoiditis. The greater portion of this section is devoted to myxœdema and exophthalmic goitre, and both of these topics are discussed in a very thorough fashion that includes the review of all, or almost all, the literature relating to these diseases. The author recommends the administration of thyroid extract in cretinism, and says the value of the treatment depends upon the use of the remedy in the earliest stage of the disease. The entire section is thorough in its discussion of the various diseases of the thyroid gland.

Volume V is devoted to the consideration of the diseases of the skin. The first section treats of the anatomy of the skin and its appendages, and was written by Dr. Charles W. Allen, who has condensed what there was to be said as much as is compatible with clearness.

Dr. L. Duncan Bulkley is the author of the section on parasitic diseases of the skin, in which he treats of the diseases due to animal or to vegetable parasites and of those due to parasites of uncertain nature.

The section on erythematous and bullous affections is by Dr. Henry H. Whitehouse, who includes in the first-mentioned subject diseases in which hyperæmia is the most important and prominent feature, and in the second pemphigus, hydroa, dermatitis herpetiformis, and pompholyx.

Dr. James Nevins Hyde is the author of the section on eczema and dermatitis. Dr. Hyde directs attention to the fact that the revelations of modern bacteriology have undermined and destroyed the doctrines that were illustrated by such phrases as darte, tetter, rheum, etc., and shown that there is no one cause capable of producing an eczema of variable type, and most eczemas are such. The very thorough *résumé* of the pathology of eczema should give a clear idea of the disease processes and of the means best adapted for their relief.

The section on squamous affections is by Dr. H. Radcliffe Crocker, who writes of psoriasis, pityriasis rubra, and pityriasis rosea in his familiar and thorough style.

Dr. L. Brocq is the author of the section on papular affections, which include the lichens, the prurigos, pityriasis rubra pilaris, and lichen scrofulosorum, the two latter diseases being included because their elementary lesion seems to be a papule. The author has added a new word—lichenification—to the nomenclature of dermatology; it is a morbid condition which may be primary or secondary, and includes the pathological changes characteristic of lichen.

Dr. Henry H. Whitehouse has written the section on pustular affections, a phrase that includes impetigo, impetigo simplex, impetigo contagiosa, impetigo herpetiformis, ecthyma, and syccosis, which are well described.

Dr. H. Radcliffe Crocker is the author of the monograph on phlegmonous and ulcerative affections, under which heading are included furuncles, furunculus orientalis, gangrene of the skin, and phagedæna tropica.

That Dr. Van Harlingen is the author of the sections on diseases of the sebaceous glands and diseases of the sweat glands is sufficient guarantee of the thoroughness with which these subjects have been considered.

Dr. Douglass W. Montgomery has included a great deal of information in a small compass in his monograph on diseases of the hair and nails.

Benign neoplasms are described by Dr. John T. Bowen at considerable length and in lucid style.

Moriz Kaposi is, very appropriately, the author of

the section on xeroderma pigmentosum, which he first described in 1870. He deprecates the optimistic prognosis of curability of the disease of some dermatologists, and does not believe that a case has ever been cured.

The final monograph in the fifth volume is on dermatoneuroses, by H. Leloir, whose name is so well and favorably known in association with this important class of diseases of the peripheral nerves. It is one of the most concise yet complete *résumés* of our present knowledge of these diseases that a student of the subject can refer to.

The sixth volume is devoted to diseases of the respiratory organs. The opening section, on diseases of the nose, is by Dr. Prosser James, who divides the subject into external and internal diseases of that organ, the first mentioned being disposed of briefly, while the last mentioned are treated at greater length.

Dr. Jonathan Wright is the author of the chapter on diseases of the accessory sinuses of the nose, and Dr. E. J. Moure, of that on diseases of the nasopharynx and pharynx, both of which subjects are satisfactorily reviewed.

Dr. Albert H. Buck is the author of the monograph on diseases of the ear, in which he judiciously confines himself to a general sketch of the pathological changes which take place in the human ear, of the symptoms to which they give rise, of the available means to ascertain the nature and extent of these changes, and of the remedial measures to afford relief or produce a cure.

Dr. E. J. Moure is the author of the section on diseases of the tonsils. The author advises that the treatment of diphtheria should be based on the distinction between monomicrobic, polymicrobic or bacilloccocic, and bacillostreptococcic diphtheria, though he considers that antitoxine serum is indicated in all these forms.

The section on diseases of the larynx is from the pen of Dr. Francke H. Bosworth, who has included a great deal of information in a moderate compass.

Sir Thomas Granger Stewart and Dr. G. A. Gibson are the joint authors of the section on the diseases of the trachea and bronchial tubes.

The ætiology of bronchitis is written of from a nineteenth rather than a twentieth century standpoint, it would seem from the indifference shown to the microbic origin of the disease and the stress laid on climatic influence.

Dr. Winslow Anderson is the author of the monograph on diseases of the lungs, which does not include croupous pneumonia and pulmonary tuberculosis.

These volumes show a great deal of careful work, and on the whole afford a satisfactory presentation of the various diseases that are described in their pages.

*Atlas of the Diseases of the Skin*, in a Series of Illustrations from Original Drawings, with Descriptive Letterpress. By H. RADCLIFFE CROCKER, M.D., F.R.C.B., Physician to the Department for Diseases of the Skin, University College Hospital, etc., London. Fasciculus XVI. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co., 1895. [Price, \$6 each part.]

THE sixteenth and final fasciculus of this *magnum opus* contains plate xiv, which shows the back of a patient affected with impetigo contagiosa gyrata, a rare bullous form of impetigo which closely resembles pemphigus contagiosus. In this case agar-agar cultures made from the fluid in unruptured bullæ produced a

practically pure culture of *Staphylococcus pyogenes aureus*. Plate lii portrays the face of a woman affected with myxœdema and a case of lentiginous pigmentation in a child. Plate liv illustrates the abdomen, loins, neck, and axilla of a woman who had acanthosis nigricans.

Plate lxxviii depicts the buttock, thigh, forearm, and hand of a patient who had that rare malady, mycosis fungoides. The patient was most benefited by a continuous bath in water containing hydrogen peroxide.

Plate lxxxviii represents three forms of folliculitis and some diseases of the surface of the tongue.

Plate xc illustrates several diseases of the nails.

A new plate illustrating pemphigus is sent in this fasciculus in lieu of plate xvii in the fourth fasciculus.

This part includes the title pages to the two volumes, the table of contents, the preface, and other material for the binder. The publishers are to be commended for the beautiful typographical and lithographical work which make this an *édition de luxe* in dermatology.

*Nouveaux éléments d'ophtalmologie.* Par H. TRUC, professeur de clinique ophtalmologique à la Faculté de Montpellier, et E. VALUDE, médecin de la clinique ophtalmologique nationale des Quinze-vingts. Tome premier. Avec 149 figures et une planche en couleurs. Paris: A. Maloine, 1896. Pp. viii-604.

THIS work will be completed in two volumes and it will be necessary to reserve the final opinion as to its merits until the appearance of the second volume; the impression gained, however, from the volume at hand is decidedly favorable. The authors modestly say that it contains a *résumé* of what has been written in many books, and that it will serve as a clinical introduction to the larger treatises on ophtalmology. We venture to say that for many readers, who are not debarred by the language, it will take the place of those monumental works in several volumes which are constantly referred to but seldom read. There are some original features of considerable value.

The part devoted to the work of the laboratory, pathological and bacteriological, is well written. The short chapters on the history of ophtalmology, on embryology, on comparative anatomy, and on physiology contain much that is interesting and not easily accessible. In some instances we note the French point of view, and it is welcome, for our eyes have been so long turned expectantly toward Germany for scientific results that we have overlooked the important work done in Paris. Javal and Tscherning at the Sorbonne, Panas and his assistants at the Hôtel Dieu, and the brilliant clinical work of the younger men at Quinze-vingts, maintain a high standard. Full justice, however, is done foreign authorities, for, if the French are Chauvinistic in other matters, in science they show no jealousy.

The last part of the volume is given up to the general pathology of the eye, including a rather inadequate chapter on tumors and an excellent discussion of the relations between the eye and general diseases and diatheses, in which, however, diabetes and nephritis are insufficiently treated of.

While we recognize the value of the work, it must be said that the arrangement does not give a result tending to the greatest simplicity and clearness; it is as if made up of separate monographs, involving repetition and confusion in reference. The illustrations are for the most part diagrammatic and are perhaps clearer than if



they had been more elaborate, but the drawings of the fundus in the chapter on ophthalmoscopy are by no means up to the standard to which we have become accustomed. A few typographical errors should be corrected in a future edition. An amusing instance of the French habit of appropriating words from other languages is the use of "shokes disc" instead of choked disc.

The second volume will contain the clinical matter. We shall await its appearance with interest.

#### BOOKS, ETC., RECEIVED.

In Sickness and in Health. A Manual of Domestic Medicine and Surgery, Hygiene, Dietetics, and Nursing, dealing in a Practical Way with the Problems relating to the Maintenance of Health, the Prevention and Treatment of Disease, and the most Effective Aid in Emergencies. By George Waldo Crary, M. D., Frederic S. Lee, Ph. D., Josiah Royce, Ph. D., Joseph Hamblen Sears, A. B., Samuel T. Armstrong, M. D., Ph. D., Alexander B. Johnson, M. D., William P. Northrup, M. D., Frank W. Jackson, M. D., Samuel Waldron Lambert, M. D., Frederick Peterson, M. D., Ph. D., Henry A. Griffin, M. D., Anna Caroline Maxwell, and J. West Roosevelt, M. D., Editor. New York: D. Appleton & Company, 1896. Pp. xvi-991.

A System of Medicine by Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., etc., Regius Professor of Physic in the University of Cambridge, etc. Volume I. New York and London: Macmillan & Company, 1896. Pp. xxxix-978. [Price, \$5.]

Burdett's Hospitals and Charities, 1896; being the Yearbook of Philanthropy. Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year, etc. By Henry C. Burdett, Author of Hospitals and Asylums of the World, etc. London: The Scientific Press (Limited). [Price, five shillings.]

Transactions of the Southern Surgical and Gynecological Association. Volume VIII. Eighth Session, held at Washington, D. C., November 12, 13, and 14, 1895. Published by the Association.

Proceedings of the American Medico-psychological Association at the Fifty-first Annual Meeting held in Denver, June 11 to 13, 1895. Published by the American Medico-psychological Association.

Medical and Surgical Reports of the Boston City Hospital. Seventh Series. Edited by George B. Shattuck, M. D., W. T. Councilman, M. D., and Herbert L. Burrell, M. D.

Reduced Period of Intubation by the Serum Treatment of Laryngeal Diphtheria. By Edwin Rosenthal, M. D., Philadelphia, Pa. [Reprinted from the *Medical and Surgical Reporter*.]

Gynecology at the Lane Hospital, San Francisco. By Clinton Cushing, M. D. (Read before the Medico-chirurgical Society of San Francisco, June 1, 1896.)

Indio. The Colorado Desert for Health. By Walter Lindley, M. D., Los Angeles, Cal. [Reprinted from the *Medical Record*.]

Alcohol in the Treatment of Rosacea. By R. Abrahams, M. D. [Reprinted from the *American Medico-surgical Bulletin*.]

De la Prothèse appliquée au traitement des empyèmes de l'antre d'Highmore. Par le Dr. Simon Dunogier, de Bordeaux. Bordeaux: G. Gounoilhou, 1896.

Blind Leaders of the Blind. The Romance of a Blind Lawyer. By James R. Cocks, M. D. Boston: Lee & Shepard, 1896. Pp. 3 to 487.

The Pathology of the Contracted Granular Kidney and the Associated Cardio-arterial Changes. By Sir George Johnson, M. D. Lond., F. R. C. P., F. R. S., Emeritus Professor of Clinical Medicine, etc. With Twenty-nine Illustrations. London: J. & A. Churchill, 1896. Pp. vi-62. [Price, \$1.40.]

Traité d'électrothérapie oculaire. Par le Dr. P. Pansier, d'Avignon. Avec une préface de M. le Dr. E. Valude, de la Clinique nationale ophthalmologique des Quinze-vingts. Paris: A. Maloine, 1896. Pp. iv-479. [Prix, 6 fr.]

Inefficiency of Milk Separators in Removing Bacteria. By Veranus A. Moore. [Reprinted from the Yearbook of the United States Department of Agriculture.]

Di una nuova particolarità nella tecnica dell'anestesia locale cocainea. Dott. Tito Costa. Comunicazione fatta al 2° Congresso Medico Regionale Ligure in S. Remo, Aprile, 1896.

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### New Inventions, etc.

#### A MODIFIED VAGINAL SPECULUM.

By ANDREW F. CURRIER, M. D.

THE accompanying cut shows a self-retaining vaginal speculum which a great deal of trial and experimentation has led me to be very well satisfied with.

The original suggestion was a French invention brought to this country a few months ago by Dr. W. M. Polk, with the blade and handle in one piece, and the blade set at nearly a right angle to the handle. It was reproduced by the Ford Instrument Company, was quite expensive (about fifteen dollars, I think), and on the several occasions when I made use of it was not entirely satisfactory. Even in very relaxed vaginae it failed to hold its position and would fall out in the most annoying way. It also failed with me to give the desired exposure of the vaginal vault and portio vaginalis. To combine the merits of the Edebohl's speculum, which is one of the very best for vaginal work with which I am acquainted, with the French instrument seemed to me desirable, and this was finally accomplished with the assistance and patience of the Ford Instrument Company.

The lower part of the handle remains unchanged. The grip is a mass of lead weighing thirty-two ounces, the shaft is tubular for the easy escape of fluids, and the lower extremity has a collar to which rubber tubing may be attached if it is desired.

Just above the grip the detachable blade is adjusted. It makes a tight joint with the handle, and is secured with a milled screw on either side, which may be loos-



ened with half a turn. Of course, the detachable character of the blade makes the instrument much more portable as well as easier to clean.

The blade is set at a very sharp angle, and I have never known it to fall out of the vagina. I have found, however, that the ordinary Edebohls blade is too small to admit of entirely satisfactory operation in very long



and voluminous vaginæ, and therefore have had a larger one made with the same relative proportions as the smaller one.

With these two blades, exchangeable at will, all the cases in which I have used them have been quite under control. The handle in question seems to me decidedly preferable to the tin bucket which is used with the Edebohls instrument. Another advantage of this instrument is that it may be bought at a much lower price than the French instrument, and, in my practice at least, it has proved decidedly preferable.

The dimensions of the instrument are as follows: Length of speculum, eight inches; weight of speculum, two pounds seven ounces; length of small blade, three inches and a half; length of large blade, four inches.

120 EAST THIRTY-FOURTH STREET.

## Miscellany.

**Antivivisection Legislation.**—At the fifty-fifth annual meeting of the Ohio State Medical Society Dr. James E. Pilcher read a paper regarding the antivivisection movement in the District of Columbia from which we quote the following remarks:

"This movement of the self-styled antivivisectionists has gathered so much momentum in its misdirected career of exaggeration and misrepresentation that the medical profession must, in self-defense, take a decided stand for the preservation of its own liberties and the best interest of suffering humanity. It is one of the unfortunate concomitants of all progress that certain of its advocates should proceed to unjustifiable extremes. Extremists are well enough in their way, and exaggeration is sometimes of advantage in attracting attention to a subject which might otherwise escape well-merited consideration. But when the extremist begins an effort to prohibit that which is essential to the progress of civilization and the highest phases of philanthropy, it is time to call a halt.

"There is no profession in which humanity is so much a part of the daily life of its practitioners as medicine; no class of mankind so conspicuous for gentleness, tenderness, and charity as medical men; no body of

individuals of whom it could be so truly said that they would inflict pain upon no living being as the practitioners of the healing art. The absurdity of placing such persons in the attitude of defense against an accusation of cruelty or inhumanity of any kind is evident to every one.

"It has been admitted from the beginning of history that the lower animals are designed to subserve the interests of mankind. The most rabid antivivisectionist will masticate his cutlet of veal or his shoulder of lamb, all regardless of the joyous young life that has been rudely terminated merely to gratify the animal appetite of the alleged defender of our dumb animals. We have no record of the refusal of the quasi-humanitarians to partake of the viands which are displayed in the butcher's shop for the gratification of the gourmand; we have no record of any attempt, legislative or otherwise, to close the establishments of the dealers in animal flesh. The sportsman inflicts untold agony upon the victims of his prowess, but we hear of no movement looking to the prohibition of hunting; on the contrary, most of our States by legal enactment designate certain seasons in which the chase is expressly allowed, the prohibition of the sport in other parts of the year being due, not to a desire to save the game from suffering, but rather to provide for the more prolific reproduction of the species, so that a greater number of victims may be available for the disciples of Nimrod during the following season. The antivivisectionist nestles luxuriously in his furs and his wife waxes gorgeous in her headgear garnished with the plunder of feathered songsters—both the spoil of the rapacity and cruelty of man; while the shoe trade, based entirely upon the products of the death of millions of God's most harmless of creatures, is prosperous in the extreme.

"The horse which he drives, the capon with which he delights his palate, and the beef or mutton which forms his daily food are all distorted examples of their species, deformed and degraded by painful operations in order to adapt them better to his service; but where is the record of his refusal to use them?

"When the antivivisectionist becomes a strict vegetarian; when he avoids all amusements resulting from animal slavery or suffering; when he clothes himself entirely in garments of vegetable and mineral composition; when he suppresses all practices, sportive and mercenary, by which pain is inflicted upon animals, he may properly begin to inquire into vivisection with a view to ascertaining whether it is humanitarian or cruel. I say he may begin to inquire, for if he is honest and unprejudiced, he will go no further than the beginning, since he will immediately discover that of all practices, altruistic and humane in the highest sense of the words, vivisection is one of the most notable.

"In the war of the rebellion, 3,273 out of 3,717 cases of wounds of the intestines were fatal. It was demonstrated a few years ago by experiments on dogs that abdominal section and intestinal suture in such cases was a feasible and successful operation, and the operative procedure was experimentally elaborated, so that by it the mortality in gunshot wounds of the intestines has been reduced from ninety to ten per cent. In other words, if these vivisectional experiments had been performed before the war, over 3,000 men might have been saved to the country with injuries not sufficient even to require a pension.

"The brain which, as well as the abdomen, was formerly regarded as forbidden ground to the surgeon, has,

by the vivisection experiments of Ferrier and others, been brought within the realm of curative art. In a single year, out of 165 cases of epilepsy collected by Echeveria, 75 patients were successfully cured, and in the same period Macewen, of Glasgow, saved no less than 90 human lives by following out the cerebral indications discovered by Ferrier in his experiments upon living lower animals.

"To relate fully and adequately the contributions of vivisection to the means of supporting the sick, relieving the suffering, and rescuing the perishing would require volumes. The work of Aristotle, Realdus Columbus, Andreas Cæsalpinus, William Harvey, and Marcello Malpighi in discovering the circulation of the blood—a matter not only of medical, but of general history as well—was entirely conducted by experiments upon lower animals. The experiments of Vesalius, Hooke, and Lower gave us artificial respiration, to which we owe so many thousands of lives every year. Transfusion of blood was directly the offspring of vivisectional experiment. The relief of large numbers of kidney affections was demonstrated only a few years ago through animal experiments by Simon at Heidelberg. Indeed, the entire system of antiseptic and aseptic surgery, the greatest humanitarian triumph in the world's history, is based upon the practice of vivisection. Medicine owes as much to it as surgery, for the bacillus of anthrax, the bacterium of tubercle, the micro-organism of diphtheria, the spirillum of relapsing fever, the streptococcus of erysipelas and puerperal fever, and many other specific agents in disease have been discovered entirely through experiments upon lower animals. The antitoxine treatment of diphtheria, the Pasteur inoculation cure of hydrophobia, the prevention of small-pox by vaccination, and many others of the most important therapeutic procedures of modern medicine are due to vivisection, while still many more are the subjects of observation, which beyond doubt will ultimately result in the discovery of curative procedures.

"Said an eminent oculist, now dead: 'I have spoiled a bushel of eyes in learning to treat one.' Said a celebrated English surgeon not long ago: 'Doctor, you have a more sensible method in America in learning intestinal surgery on dogs; we are not generally allowed to vivisect here, and I have filled graveyards full of people in learning intestinal surgery on humans.' The unspeakable advantage to be gained by the practice of operative methods upon the lower animals in order to gain the experience and dexterity which will render more successful operative work on human beings can not be estimated. The perfection of technics, the observation of the conduct of wounds, familiarity with topography, and the acquirement of the *factus eruditus* in handling the organs and parts must be gained by actual practice, and the death of a thousand rabbits is but a small price to pay for the privilege of saving a single human life.

"Moreover, while vivisection experiments are always beneficial they are never cruel. Even were the medical student the heartless creature represented by the anti-vivisectionists, he would prefer, for his own convenience, to silence the cries and subdue the struggles of his subjects by an anæsthetic; and, as a matter of fact, a desire to avoid the infliction of suffering causes him to render the little animal which contributes to the welfare of mankind entirely insensible during his work.

"All this emphasizes the deceptive and incorrect character of the efforts to embarrass, if not prohibit, the future of these genuinely philanthropic as well as scientific studies. The dangerous movement looking to this

end, initiated in the District of Columbia, has met with astounding success, and it behooves all true lovers of scientific progress to unite in the attempt to prevent the enactment of the bill now before the United States Senate for this purpose; for, should this movement be successful in the District, it would not only put an end to most important work in various scientific departments of the government and the medical schools of Washington, but it would be the beginning of a movement jeopardizing scientific study throughout the entire Union."

"Whereas, far more unnecessary pain is constantly being inflicted upon the lower animals for sport and for gain than in biological and pathological laboratories; and,

"Whereas, no evidence has been presented by those who advocate restrictive legislation showing that abuses exist in the District of Columbia; and,

"Whereas, results of great practical importance have been obtained by experiments on the lower animals made in the government laboratories in the District of Columbia. Therefore be it

"Resolved, That the American Medical Association earnestly protests against the passage of Senate bill No. 1,552, entitled A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia, or any modification of this bill, unless it shall first be shown by an impartial investigation that cruel and unnecessary experiments are being performed in the District of Columbia, and that existing laws do not provide suitable punishment for cruelty to the domestic animals.

"This is a matter of so great importance that it is clearly the duty of the medical profession of the State of Ohio also to put on record what I know to be its unanimous opinion with regard to the subject, and to bring the matter to an issue I move the adoption of the following resolutions:

"Resolved, That the Ohio State Medical Society earnestly joins in the protest of the American Medical Association as expressed in the resolutions adopted at the recent meeting of that representative body of American physicians and surgeons held in the city of Atlanta.

"Resolved, That a copy of these resolutions be sent to the Senators and Representatives of the State of Ohio in the Congress of the United States, and that they are hereby requested to use their influence in opposition to the proposed legislation, 'unless it shall first be shown by an impartial investigation that cruel and unnecessary experiments are being performed in the District of Columbia, and that existing laws do not provide suitable punishment for cruelty to domestic animals.'"

The following amendment, proposed by Dr. L. B. Tuckerman, of Cleveland, was accepted by Dr. Pilcher, and the resolutions as amended were unanimously adopted:

Resolved, That a delegate be appointed by this society to go to Washington and interview the Senators and Representatives in person in behalf of these resolutions, and that one hundred dollars be appropriated to pay his expenses.

**The Complications and Treatment of Erysipelas.**—In an article on this subject in the *Journal des praticiens* for June 29th the writer calls attention to the fact that, although erysipelas of the face is ordinarily benign, in certain forms the disease may present a number of local or general complications.

Suppuration and gangrene of the invaded tissues are seldom observed, he says, except in those who suffer from



diabetes, Bright's disease, alcoholism, and hepatic affections. However, intense erysipelas may cause partial sphacelus by mechanical compression. Relapses of this disease are sometimes so frequent as to constitute a veritable complication, although they are generally benign. In time, however, they may determine a true elephantiasislike infiltration of the tissues. Sometimes, also, a relapse which follows a series of benign attacks is accompanied by grave infectious symptoms.

Among the general complications, gastro-intestinal catarrh is almost habitual, although it is not serious, except in certain biliary forms with symptoms resembling those of a grave icterus. Occasionally the entire digestive tube is invaded, and abscess of the liver has also been noted. Angina, which often precedes, accompanies, or follows erysipelas, is sometimes very intense and is accompanied by symptoms of gangrene. When it spreads to the larynx and to the roof of the mouth it is always very grave. An intense rhinitis also warrants a very serious prognosis. In such cases, says the writer, oedema of the glottis or erysipelatous pneumonia or broncho-pneumonia is to be feared.

The forms of erysipelas with generalized streptococcic infection are accompanied by a grave adynamic general condition. They may be complicated with simple or ulcerative endocarditis, meningitis, myelitis, acute hæmorrhagic nephritis, suppurative arthritis, etc. These various complications are, however, rather rare.

In spite of the intense palpebral swelling, says the writer, erysipelas generally spares the ocular globe; but the possibility of keratitis, iritis, and hypopyon should be borne in mind. From a prognostic point of view there should always be taken into consideration the real gravity which is generally presented by the epidemic forms of erysipelas, those developed by direct contagion.

According to the writer, the treatment is usually very simple. Milk should be given copiously, also coffee and saline purgatives. Wine of cinchona, given in amounts of six ounces or more during the day, is a valuable remedy, as Leudet and Jaccoud demonstrated. Alcohol should always be prescribed for alcoholics. Where there are serious adynamic symptoms internal remedies seem useless and even dangerous. This is especially true if albuminuria exists, since it indicates a possible defect in renal elimination, and the employment of such remedies is to be distrusted. In these cases, according to Galliard and Legendre, cold baths constitute the best treatment. Visceral complications are, according to the latter, an indication rather than a contraindication. Albuminuria, particularly, will be favorably modified. Not more than six baths a day should be taken, and their temperature should be from 68° to 72° F., and their duration from ten to fifteen minutes.

As a means of local treatment in simple cases, compresses saturated with an infusion of elder berries or with boracic acid water will generally give sufficient relief. In cases of very great tension the following preparations will be found useful:

1. Sodium salicylate.....	60 grains;
Cold cream.....	3 ounces.
2. Salicylic acid, } each.....	60 grains;
Borax, } .....	16 ounces.
Boiled water.....	150 grains;
3. Sodium salicylate.....	16 ounces.
Boiled water.....	

When erysipelas breaks out in a bad subject, for instance, in cases of Bright's disease, diabetes, or alcoholism, when the patches spread rapidly and present a tend-

ency to sphacelus, Vidal, says the writer, recommends a more energetic local treatment either by spraying with corrosive sublimate or with traumaticin and ichthyol.

Spraying with corrosive sublimate requires delicate handling; if it is badly done it may leave indelible cicatrices; the technics of the second treatment is much more simple, and the following formula is recommended:

Ichthyol, }  
Traumaticin, } ..... equal parts.

The erysipelatous swelling may be kept within limits by painting with this liquid three or four times a day, in such a way as to maintain the coating of traumaticin intact. In two days the erysipelas is generally arrested. The painting is continued for forty-eight hours after the inflammation has completely disappeared.

**A Medical Excursion.**—At a recent meeting of the American Laryngological Association Dr. J. W. Gleitsmann made a proposition in regard to an excursion to the International Medical Congress which is to be held in Moscow in August, 1897.

His plan is to combine a trip to Norway and St. Petersburg with the visit to Moscow, starting from Hull, in England, about the middle of July and arriving in Moscow about the middle of August. The trip would include the regular tourists' excursions along the Norwegian coast with its beautiful fjords to the North Cape, thence back to Trondhjem, and from there by rail to Christiania. A short trip could be made to the famous Trollhoettan Falls on the way to Stockholm, from which place steamers sail to Abo, in Russia; thence by rail to St. Petersburg. If a sufficient number of ladies and gentlemen—from sixty to seventy—join the excursion, they would probably be able to have a steamer to themselves.

This trip can be comfortably made within a month, and Dr. Gleitsmann gives the assurance that the expense would not exceed a hundred and fifty dollars. This includes steamboat berth and meals from Hull to the North Cape and back to Trondhjem, also a first-class railroad ticket from Trondhjem to St. Petersburg, but not hotel or other expenses.

Dr. Gleitsmann states that he mentioned this trip to French and English physicians, and they were very favorably impressed with the plan and promised to get a number of physicians to join the party. He hopes that as much interest will be shown here in the proposed pleasure trip, as it affords a rare chance to see some of the most beautiful European scenery. Definite arrangements will be made during the latter part of the year, and all those who desire to join the excursion are requested to apply to Dr. Gleitsmann, at No. 46 East Twenty-fifth Street, who will give any information required in regard to the trip.

**A Case of Knife-swallowing, with Successful Gastro-tomy.**—The *Indian Medical Record* for May 16th contains the following account of a case which came under the observation of Mr. A. N. Chaudhrie at the Sadar Dispensary in Hamirpur: The patient, a man twenty-seven years old, tried to prove himself a successful juggler by swallowing a blunt knife, which measured twelve inches in length and was three quarters of an inch broad; a portion of the knife protruded about an inch out of the mouth. He then tried to introduce a second one, leaving the first *in situ*; the result was that it tilted the first one, which slipped down into the stomach. The man was fairly muscular. He suffered acutely



from pain in the abdomen, where one end of the knife could be felt on manipulation. During his stay various methods were tried, such as emetics, inversion, etc., the failure of which left no other alternative but to decide for gastrotomy.

The man was kept fasting for about twenty hours, when the abdominal region was washed with antiseptics, and the patient was chloroformed. The common incision for gastrotomy had to be abandoned, and an incision about three inches in length was made about two inches from the navel, the lower margin of which was almost on the level of the navel. This incision had to be made owing to the fact that the end of the knife was at that level. Careful dissection of the different abdominal parietes and their division gradually exposed the peritonæum, which was slit open on a director; the gut, which was exposed in the wound, was pushed aside, and the end of the knife inside the stomach was brought out of the wound. Lembert's sutures were applied and it was slit open, and the knife was found lying firmly jammed across the stomach, and was extracted with some difficulty. The bleeding was slight and was stopped by a little pressure. The sutures were tightened and the stomach was sutured with catgut and replaced in the abdominal cavity, the peritonæum was drawn closer (but not sutured), deep sutures were applied, and the skin flap was sutured with catgut. Dry dressings were applied, and the man was removed to bed.

The operation lasted three quarters of an hour. Morphine was injected hypodermically. The man was fed by enemata of milk mixed with pepsin and zymine, until April 13th, on which date he was allowed to have liquid nourishment by the mouth. During all this time his temperature kept normal, the dressings were removed on the seventh day for the first time, and the wound was found to be practically healed.

There was excessive thirst for the first five days, and, as no ice could be obtained, the author tried half a grain of menthol with betal, which, he says, relieved the thirst in a remarkable manner.

Commenting on the case, he says that if the incision had been made considerably lower down, great difficulty would have been experienced in extracting the knife; furthermore, he draws attention to the effects of the menthol, and to the fact that the peritonæum was not sutured, and he thinks that he has no occasion to regret this omission.

**The Treatment of Measles.**—In the *Lancet* for June 20th Mr. A. Dunley Owen remarks that during the early months of this year an epidemic of measles of a severe type visited Northampton and the surrounding district, and there was an unusually high mortality from this disease, chiefly, he believes, from concurrent bronchial and pulmonary inflammations. Of the cases that fell to his share he took notes of over three hundred with a mortality of only four, of whom one died from capillary bronchitis three hours after he was called in, and the others were under two years old and succumbed to bronchopneumonia. He attributes this low rate of mortality to the method of treatment that he has invariably adopted—namely, to order jacket poultices, to be changed every three hours, as soon as any indications of measles show themselves and before the rash appears, and he thinks this has been beneficial, for death has occurred only in those cases in which the mother discontinued the poultices after the first application, or, as in one case, thought proper not to poultice at all. The only medicinal treatment adopted has been ipecacuanha wine

with acetate of ammonia, with a boric-acid wash for the eyes in those cases which were complicated by catarrhal inflammation of the lids. Stomatitis occurred in about one half of the cases and invariably yielded to the application of a saturated solution of chlorate of potash to the inside of the mouth, the children being too young to use a mouth wash. Convalescence proved slow in nearly all of these cases.

It is a curious fact, says Mr. Owen, that children living in towns gain strength far more rapidly than those in the surrounding country districts, and he thinks it is owing to the fact that town workers earn higher wages, thus enabling them to procure a better diet for their children.

**Splenic Extract in Therapeutics.**—Dr. W. Cohnstein, of Berlin (*Allgemeine medicinische Central-Zeitung*, 1896, No. 43; *Therapeutische Wochenschrift*, June 14, 1896), having found, like Danilewsky, that the use of a watery extract of the ox's spleen, whether given by the mouth or subcutaneously, gave rise to a notable increase in the number of the red blood-corpuscles in dogs and rabbits, has proceeded to employ it therapeutically. He reports upon its use by several physicians in twenty-three cases. In one of them the disease was leucæmia; the others were examples of anæmia or chlorosis. In the case of leucæmia there was only a transitory effect observed, not really therapeutical. On the other hand, in the majority of the cases of anæmia and chlorosis the action of the extract was very striking. The first signs of improvement were seen in the subjective symptoms of debility, loss of appetite, constipation, headache, and dysmenorrhæa. Objectively, the pallor disappeared, and often there was an increase of the hæmoglobin or of the number of the red blood-corpuscles. In many cases the patients gained flesh notably. In many others there were no objective signs of improvement. In no instance was any unpleasant effect observed.

The splenic extract employed by the author was one known by the trade name of *eurythrol*. It is a watery extract to which salt has been added, partly to preserve it and partly to give it a better flavor. It is described as resembling Liebig's beef extract. The amount to be given daily is from one to two teaspoonfuls, dissolved in hot water.

**Guaiecin in the Treatment of Pulmonary Tuberculosis.**—In the *Centralblatt für innere Medicin* for June 20th, Dr. J. Strauss, an assistant physician in Professor von Noorden's division of the Municipal Hospital in Frankfurt on the Main, reports upon the use of this substance in the treatment of pulmonary tuberculosis. He first remarks that guaiecin is a pyrocatechin-monacetic acid,  $C_6H_4 \begin{matrix} OCH_2COOH \\ OH \end{matrix}$ , obtained by introducing the carboxyl group into guaiacol. His particular object in the employment of the drug was not to ascertain what remedial effect it had, for he takes it for granted that whatever curative action is attributable to any one of such substances as creosote, guaiacol, guaiacol carbonate, guaiecin, etc., must be credited to the others also; he had rather in view an investigation as to the incidental effects of guaiecin, particularly on the stomach and on the kidneys.

The drug was used in the cases of seventy phthisical patients in all stages of the disease, in doses of about seven grains, several times a day. It is described as a tasteless powder. Sixty-one of the seventy patients took it without the slightest disturbance of the digestive

apparatus, although in six of them the creosote treatment had previously had to be discontinued on account of impairment of the appetite, nausea, eructations, or vomiting. The following were among the unpleasant symptoms that the author thinks may have been due to the drug: Impairment of the appetite occurred in two of the cases. Four patients had loss of appetite, nausea, and vomiting which they ascribed to the medicine, but which did not subside on the discontinuance of its use. In two of these four patients the amount of hydrochloric acid in the gastric juice was normal, in one it was too small, and in one it was too large. Two patients were attacked with abdominal pain and diarrhea every time they took guaiaceticin, but the attacks soon subsided when the use of the drug was discontinued. One of these patients had had similar symptoms, and in greater severity, as the result of taking creosote. Of all the seventy cases, therefore, there were only two in which gastro-intestinal disturbances could with certainty be imputed to the use of guaiaceticin.

Headache, vertigo, and pronounced weakness showed themselves in one case on the fourth day of the guaiaceticin treatment, and persisted for five days, when, on the use of the drug being suspended, they at once disappeared.

Albuminuria did not come on in any of the cases, and pre-existing albuminuria was not aggravated by the treatment.

On the whole, the author thinks that, as regards collateral effects, guaiaceticin produces them to a lesser extent than either creosote or guaiacol carbonate.

**A Remarkable Case of Keloid** is reported in the *Monatshefte für praktische Dermatologie* for June 15th by Dr. Ravogli, of Cincinnati, and a very clear portrait of the patient is given. The growth seems not to have been of traumatic origin and the man, a Kentucky negro, had never had syphilis. The most noticeable part of the growth sprang from the region between the chin and the throat and extended backward on the neck.

**Ferrostyptin.**—In the *Therapeutische Wochenschrift* for June 21st this drug is described as a yellow crystalline powder introduced by Dr. A. Eichengruen and made by Dr. L. C. Marquart, of Beuel. It is freely soluble in water, but insoluble in cold alcohol or ether. It is brought forward as a substitute for chloride of iron as a styptic, and is said to have the advantages of being unirritating and antiseptic, which make it particularly suitable for gynecological practice, also in rhinology and dentistry.

**Photography of the Human Stomach by the Roentgen Method.**—In an article on this subject in the *Boston Medical and Surgical Journal* for June 18th, Dr. John C. Hemmeter states that Dr. Becker, of Berlin, made use of the property of solutions of not allowing the Roentgen rays to penetrate in order to photograph the stomach and a loop of intestine of a guinea-pig by distending both with the liquor plumbi subacetici of the German Pharmacopoeia. In the photograph the only parts of the abdominal contents that are visible are the parts that contain the lead-acetate solution. It can not be affirmed, however, says Dr. Hemmeter, that the outlines of the stomach and intestinal loop are well defined, which is explained, perhaps, by the fact that the solution leaked out into the abdominal cavity.

To obtain a photograph of the human stomach a solution having the two following properties is neces-

sary: 1. It must not injure the stomach of the subject to be photographed. 2. It must be impenetrable to the Roentgen rays. Then it will be important to observe in what dilution these solutions may yet refuse penetration to these rays of light.

Dr. Carl Wegele, of Koenigsborn, Westphalia, commenting upon Becker's experiment, suggests the introduction of his spiral electrode into the stomach in such a manner that it should come to lie along the greater curvature of the stomach. A small coin is suggested to be placed over the umbilicus. Both the metal of the electrode and the coin would show in the photograph and thus some idea of the location of the stomach might be obtained. This would, however, says Dr. Hemmeter, give no impression of the size of the organ, as the metal of the electrode would in favorable experiments map out the greater curvature only. Although the duration of exposure for the Roentgen method has been much shortened by the improved methods of the physical laboratory of the University of Jena, the plan to determine the location and size of the stomach by the Roentgen photography can hardly be considered anything but circuitous.

The author thinks that a rapid and most reliable method of determining the location of the stomach is by Einhorn's electro-diaphany; and that its capacity and also its location can be readily ascertained by the use of his intragastric deglutible elastic-rubber bag.

The liquor plumbi subacetici used by Dr. Becker, he says, is not a solution of simple plumbic acetate, but contains also oxide of lead in the proportion of three of the former to one of the latter; besides being poisonous, it acts upon mucous membranes like a corrosive. Dr. Hemmeter does not consider the use of the Roentgen method, on account of its complexity and long duration of exposure, practically useful for determining the size and location of the stomach; if, however, one wishes to experiment with it to ascertain whether there is any value in it, he suggests that the solution of plumbic acetate be injected into his intragastric stomach-shaped rubber bag, which can be made strong enough to hold a sufficient quantity of the solution to distend the adult stomach, and at the same time it can be swallowed easily or pushed down, after it is folded over a thin oesophageal tube. When the bag, which has exactly the shape of the stomach, has reached the cavity of the organ, the plumbic-acetate solution can be slowly filled in through the mouth by means of the oesophageal tube until the bag is distended far enough to closely apply itself to the gastric walls. The umbilicus might be marked by a coin, as suggested by Wegele. A photograph taken in this manner, continues Dr. Hemmeter, would give not only a part of the stomach, but the entire organ, and show its location and size. After the exposure the solution of plumbic acetate would have to be removed by aspiration, for which a stomach pump would be useful for speedy evacuation.

**Rigors in Children.**—In studying this subject, Mr. Gerald R. Baldwin says in the *Lancet* for June 13th that he has employed valuable evidence contained in the surgical case books of the Hospital for Sick Children, Great Ormond Street. They extend over a period of seven or eight years and embrace nearly every variety of surgical disease seen in children. But although the material has been collected only from the surgical notes he has found many cases in which one of the acute specific fevers played a chief or subsidiary part. Before



quoting from the collected statistics, he says, it is as well to consider with what diseases rigors are commonly associated in adults and what are the other symptoms which most frequently accompany them. Certain acute specific fevers, and more especially cases of acute pneumonia, are commonly ushered in by a rigor. When extensive inflammation advances to suppuration one or more rigors may occur. In septic poisoning (sæpæmia) and septic infection (septicæmia) they are not uncommon, while they invariably accompany pyæmia. Of the accompanying symptoms pyrexia is essential; no shivering fit can be truly termed a rigor unless the temperature rises above the normal. The other symptoms depend largely on the nature of the disease; but if it is of septic origin there are generally great bodily depression, rapid, feeble pulse, dry tongue and lips, with, in many instances, vomiting, profuse diarrhoea, and muttering delirium. If the disease is pyæmic, secondary abscesses will be present in the subcutaneous tissues, joints, or viscera.

Rigors occur with extreme rarity in children, says the author. Out of a hundred and thirty cases rigors are mentioned in five only, while one case is said to have begun with shivering and in another frequent shiverings are recorded. The diseases selected for investigation have been chiefly of septic origin; but, in addition to these, he has included others, such as acute specific fevers beginning in the surgical wards and hyperpyrexia of doubtful origin, in which rigors may occur in adults. Roughly classifying the cases they arrange themselves into the following groups: acute abscess, cellulitis, hyperpyrexia, acute specific fevers, complications of mastoid suppuration, acute arthritis, acute periostitis, and acute epiphysitis.

From the statistics collected and the cases quoted by Mr. Baldwin he concludes that rigors are extremely uncommon in children, even in diseases which are acutely septic in character. On the other hand, convulsions are also uncommon in children. In a hundred and thirty cases he has found only five in which rigors occurred—i. e., once in a case of lateral thrombosis, the child being nine years old; once in a boy aged six years and a half, who died from pyæmia following acute abscess; once in a case of tuberculous meningitis occurring after tuberculous dactylitis in a child aged three years; once in a boy aged three years, who had acute periostitis of the tibia; and once in a child aged six years, the rigor being of doubtful origin. Two of these cases ended fatally. In five cases there was a history of convulsions, once in a child aged eleven months, with cellulitis of the foot; once in a case of cellulitis of the thigh and broncho-pneumonia, the child being one year old; once in a child aged two years and a half suffering from acute arthritis; and twice in children with acute periostitis, aged respectively two years and nine months and three years and nine months. The majority of the cases collected might have been accompanied by rigors in adults.

If, says Mr. Baldwin, as is generally supposed, the shivering in a rigor is caused by contraction of the superficial arterioles induced by irritation of the vaso-motor centre by various poisons in the blood, the cause for the extreme rarity of rigors in children is probably to be found in a less perfect development of that centre in them than in adults. The frequency of hyperpyrexia from comparatively trivial causes is another clinical fact which lends its weight to this suggestion. It may be safely concluded then, he says, that rigors are very rare in children, and almost unknown under three years of

age; and that convulsions very rarely take the place of rigors even in infants.

The author thinks that rigors are not of very great clinical value in studying the diseases of childhood. Before the age of seven or eight symptoms apart from signs can never assist so clearly in diagnosis as in older patients. The facial expression, manifestations of pain, and even the pulse itself seldom give the surgeon perfectly reliable information. But rigors may mislead him more than any other manifestation of disease. As a rule, he says, they point to severe infection, and if oft repeated generally to septic infection, but their presence or absence rarely assists in differential diagnosis. To take one instance from among many. In an adult with a profuse and fetid discharge from the ear the occurrence of rigors, especially if associated with other symptoms, such as vomiting and optic neuritis, points to lateral thrombosis.

Why one child has rigors and another has not it is impossible to say. The great fact that these cases appear to point out is that in diagnosis only a minimum amount of weight can be given to the absence or presence of rigors in children.

**Indian Hemp.**—In an editorial in the *Indian Lancet* for May 16th the writer gives a description of the effects of this plant, which is consumed in enormous quantities in the East. In small doses it quickly relieves pain and induces sleep. In larger doses it produces the following effects: Shortly after taking a full dose a pleasant state of intoxication ensues. The consumer perpetually talks, giggles, and sings. Ideas of a delightful kind pass rapidly through his mind, and he is possessed with a feeling of complete happiness and contentment. After a time sleep sets in, generally accompanied by pleasant dreams. But if the dose is excessive, or if the individual is peculiarly susceptible, the consequences are such as to prevent a repetition of the indulgence.

The following vivid description, says the writer, is given by Dr. H. C. Wood of the effects he suffered from an overdose of this drug: A few hours after taking it he was writing a prescription when he became perfectly oblivious to surrounding objects. He continued to write, however, and, on looking up and seeing the patient lying in bed, thought that he had been many hours writing the prescription, and he apologized for remaining so long. He then returned home in a state of ecstatic happiness. He laughed and made comic gestures and imitated the motions of a violinist. He knew he was acting foolishly but could not control himself. This condition lasted for half an hour, and then a change set in. He felt uneasy and his limbs became numb, and he walked constantly about the house. His mouth and throat became painfully dry, and he experienced a strange feeling in his legs, as though they were not a part of his body. A foreboding, an undefined, horrible fear, as of impending death, took possession of him, and he sent for a physician. He had lost all power of measuring time. When the physician arrived the patient was put to bed, but the symptoms grew intensified, and he felt himself mounting upward and expanding until he filled all space. He himself says, "I have never experienced anything like the fearful sense of almost hopeless anguish and utter weariness that was upon me."

This drug, continues the writer, is a native of Western and Central Asia, although it is cultivated in many parts of Europe. The Indian variety only is used in



European medicine. It has two principal forms, one consisting of dried leaves and small stalks, which is called bhang or siddhi in Hindustani, and hashish in the Arabic tongue; the other consists of the flowering shoots, and is called guaza by London drug brokers.

Although hemp is such a powerful drug, it is said not to be fatal, even in the largest doses. The odor is rather pleasant and the taste scarcely perceptible, and for this quality, says the writer, it lends itself, like arsenic, to criminal purposes. In India it is smoked both by Mahomedans and Hindus, either alone or with tobacco. It is also taken as an infusion. The commonest way of using it, however, is in a sweetmeat of a green color, which is composed of flour and various ingredients. Although its usual effect is the production of quiet happiness, and although it is said, like opium, to diminish crime, it sometimes produces furious delirium and renders the consumer perfectly reckless. The assassination of Justice Norman, for instance, in Calcutta, on the steps of the town hall, was perpetrated by a man under the influence of hashish. The Afghan chief, also, who murdered Dr. Forbes, in 1848, was known to have been intoxicated for days previously with charas or bhang. When the drug is consumed for any length of time it produces trembling and great muscular weakness. And a strange effect of it, occasionally, is a most ravenous appetite, which no quantity of food is capable of appeasing. But the astonishing effects produced in the warm East are never seen in colder England.

The use of hemp, says the writer, may be morally indefensible, nevertheless it serves most useful purposes. Some intoxicant appears to be a necessary food for the human nervous system. Hemp is, therefore, an excellent substitute for alcohol among the totally abstaining Mahomedans. It also enables the over-populated Asiatic countries to pull through their frequent famines in a way that would be impossible with Englishmen. And if we judge by the inoffensive Hindu it can not be said to be morally deleterious.

The use of bhang is as old as the hills. The ancient Chinese herbal called Rh-ya, written about the fifth century B. C., notes that there are two kinds of plant—one producing flowers and seeds, and the other flowers only. Many early Hindu works on medicine also, such as the Susruta and Charaka, describe hemp as a potent remedy for certain ailments; while Herodotus states that in his time it grew in India, and articles of clothing were made from it. The Scythians, he said, were in the habit of using it in their baths. They placed the seeds on red-hot coals, and exposed their bodies to the vapor. Early in the Middle Ages the use of bhang spread from India through Persia to the Arabians, but it was not until the sixteenth century that it was introduced into Europe. It did not take there, however, and during Napoleon's eastern expedition it was described as a new discovery by two French scientists. Thirty years later, in consequence of Dr. O'Shaughnessy's experiments in India, hemp became a permanent and valued addition to the British Pharmacopoeia. The famous care-destroyer of the Greeks was, according to Royale, nothing else than Indian hemp. It has furnished our language, continues the writer, with rather an ominous word—assassin, derived from hashishin, the name of a band of Mahomedans whose murderous deeds terrified the Crusaders, and who were so called from the fact that they used hashish in their religious rites. As for stopping the use of bhang by a royal commission, the writer says, we might as well try to keep swallows from building

nests. Considering the antiquity and universality of its use, it is impossible not to conclude that hemp is as necessary to the Mahomedan and Hindu as tobacco or beer is to the Briton. And the balance of evidence points to its comparative harmlessness.

**A Plea for Moderation in Statements regarding the Contagiousness of Pulmonary Consumption.**—In the *Boston Medical and Surgical Journal* for June 25th there is an article on this subject by Dr. Vincent T. Bowditch, of which the following is an abstract:

Recent events have impelled me to say a few words with the hope that by discussion of the subject we may have some influence directly or indirectly upon the community, especially upon the laity, in checking what has of late frequently seemed unnecessary alarm about the contagiousness of tuberculous diseases, especially in its pulmonary form.

In what I am about to say I trust that I shall neither seem to disparage the great advance in medical knowledge due to bacteriology nor to discourage in any way all reasonable efforts to prevent the spread of tuberculosis. I firmly believe that in another generation we shall see a diminution in the general death-rate from this disease, largely due to the precautions which are now so earnestly advocated by the mass of the profession. I only wish to protest against the unreasonable and often, as I deem it, cruel attitude taken by the laity and even by physicians in their desire to prevent the spread of the disease.

Not many weeks ago the people in Boston were treated in their local papers to hot discussions which have been carried on at the city hall relative to the proposed enlargement of a certain institution in the suburbs for the shelter of poor consumptives.

I have been surprised and even shocked to read the statements of some medical men at these hearings, to say nothing of the extravagant words of members of the laity—mostly composed of people living near the institution—who, in their desire to rid themselves of what seemed to them an objectionable neighbor, have given vent to most unwarrantable statements which serve to give the public an unnecessary alarm and create that state of constant apprehension which I firmly believe is a potent factor in producing disease.

The only excuse that I can conceive of for the marked opposition to this special institution is that at one time it was not conducted as a well-regulated hospital for consumptives should be, and that before we knew the importance of destroying the chief source of infection—namely, the sputa—patients were allowed to expectorate upon the grounds about the building, a method which, I have lately been told by one of the trustees, has been absolutely prohibited on pain of dismissal at the first offense.

Not long after these statements had appeared in the papers, I was asked by a layman my opinion upon the subject of the contagiousness of consumption. I told him that doubtless it was a contagious disease under certain conditions, but that with certain precautions, chiefly in the strict care of the sputa, the dangers from contagion were reduced to a minimum. It then came to light that he was one of the opponents of the institution about which such a controversy had occurred, and he almost angrily turned to me and said, "It is abominable that such hospitals should be allowed anywhere in our midst. They are a source of danger to all!"

The gentleman seemed to be oblivious of the fact that these same consumptive patients confined in the walls or in the grounds of the institution were an infinitely less source of danger than if allowed to roam at large, spitting in the street cars, public places, or even in their own homes. His position represents that of thousands who hold the same unreasonable views, and who in their fear of contagion forget the sympathy and kindness due to those who are suffering from consumption; and for these views, the extravagant or careless statements, I regret to say, of our own profession are largely to blame.

When a physician asserts that consumption is "as contagious as small-pox" and that "hospitals for consumptives are a source of danger to the whole surrounding community," I consider him culpable for making perfectly unwarrantable statements that can not be borne out by facts.

It has been proved by observation in the communities near two of the largest sanatoria for consumptives in the world—namely, Goerbersdorf in Silesia and Falkenstein near Frankfort, that consumption has lessened in amount among the entire population since the introduction of the sanatoria there, largely due, it can justly be said, to the strict hygienic rules which are used at the sanatoria for the disposition of sputa, and which are taught to the inhabitants in the surrounding villages.

It is doubtless perfectly true, on the other hand, that in various "open resorts" for consumptives where strict methods for disinfection of the hotels and boarding houses are not enforced, the death-rate among the natives from consumption has increased greatly, the most striking cases being those of Mentone and Nice, where, according to statistics, consumption has greatly increased since the place has become such a common resort for phthisical patients, many of whom through carelessness or ignorance become sources of contagion to others.

Whether this increase of consumption among the natives is due to the lack of strict hygienic rules among the hotels and boarding houses for phthisical patients in Nice and Mentone, or because the native population have changed their former out-of-door occupations to the more confined life of hotel attendants, may be justly questioned, and yet the difference between the experiences at Mentone and at the two great sanatoria just mentioned is very striking.

In a very interesting paper entitled *A Study of the Infectiousness of the Dust in the Adirondack Cottage Sanitarium* (*Medical Record*, December 28, 1895), Dr. Irwin W. Hance has given some results which prove how little danger there is of infection in properly regulated institutions.

Guinea-pigs were inoculated with the dust taken from various rooms of the sanitarium, and tuberculosis was found to be present only in the animals who had been inoculated with the dust from the room of a careless patient who had been complained of for spitting on the floor, a striking example of the absolute necessity of cleanliness in this particular.

In the large hospital for consumptives at Brompton, London, where the same strict hygienic rules are maintained as at the great sanatoria of Germany, the percentage of hospital attendants who have developed phthisis is very small indeed, according to the statements of Dr. C. T. Williams.

Directly bearing upon the subject in question are the scientific and very important experiments of Dele-

pine and Ransome with reference to the germicidal effect of various substances upon the bacilli of tuberculosis. In these experiments exposure to the full rays of the sun for a comparatively short time (a few hours) proved the most efficient germicide of all, it being sufficient to render the bacilli completely inert, the inoculated animals showing no signs of tuberculosis. The experiments were made, it is important to state, with dried sputa, and not with simple cultures of the bacillus.

They found, moreover, that the 1-to-10 or 1-to-100 solution of chlorinated lime proved to be the most efficient method of disinfecting the clothing, the walls, and the floors upon which the sputa had been expectorated.

A. K. Stone and others have proved the extreme vitality of the bacilli when not exposed to the sun—sputa dried for three years in a dark place having produced tuberculosis in animals; but we need the results of more extensive experiments in the direction Ransome has taken, the importance of which in the practical everyday dealing with consumptive patients can hardly be overestimated.

As a result of the experiments of Ransome, it is certainly a legitimate doubt to come to our minds as to how far we need fear infection from sputa which are expectorated on to the open ground exposed to the full rays of sunlight. Not that I would relax one iota in the restriction of the disgusting habit (to say the least) of spitting publicly anywhere; it is only a question as to its danger under the condition of exposure to the sun's rays.

Thus we have scientific facts to help us in trying to show the laity that the consumptive need not be treated like a leper, or as one affected with the plague, but that moderate measures will prevent his being a source of danger to those about him.

It is doubtless natural that the ordinary hotel-keeper should prefer not to receive a guest far advanced in consumption for reasons other than fear of infection; but I have seen too much of the sadness arising from the fairly brutal disregard of the poor sufferer's feelings in some cases not to make me wish to beg for moderation in our statements to the laity lest we be guilty, not only of making assertions not based on scientific truth, but also of adding unnecessarily to the mental suffering of those who are already overburdened with physical ills.

In conclusion, let me emphasize my own position in this matter, lest by any chance I should be misunderstood as wishing to relax in methods for perfect cleanliness about the consumptive patient. I advocate most firmly the destruction of the sputa by fire or other methods of disinfection. I believe also that the rooms occupied by a consumptive patient should be thoroughly cleansed with chlorinated lime or carbolic acid; in short, that all reasonable methods should be adopted to kill the germs of the disease; but I wish to refute the statements that *properly regulated* consumptive hospitals are sources of danger to the community when I believe them to be exactly the opposite, as shown by statistics. I wish also to plead for the consumptive who in his exile is made to feel the forlornness of his condition still more keenly by the selfishness of those who, in their desire to escape the possibility of infection, shut their doors in his face, as it were, utterly regardless of the mental suffering they are inflicting.

Future experimentation will doubtless throw more light upon the subject; but meanwhile let us in our zeal as physicians be careful not to make statements which we may be obliged later to retract as not being founded upon scientific truths.



## Lectures and Addresses.

### A CLINICAL LECTURE\*

#### ON A CASE OPERATED UPON FOR THE RADICAL CURE OF INGUINAL HERNIA AND FOR URETHRO-RECTAL FISTULA.

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GENTLEMEN: The case for operation to-day is one of urethro-rectal fistula connecting the prostatic urethra with the rectum and associated with strictures of the urethra. In addition the patient has a left oblique inguinal hernia.

The patient is a man, thirty-four years of age, who had a first and severe attack of gonorrhœa seven years ago. This was neglected and had lasted some months when he used a strong injection of zinc sulphate, after which the discharge diminished; but he suffered from chordee, the stream became smaller, and there was an occasional gleet discharge. Three years ago a second attack of gonorrhœa, followed by right epididymitis, left him with a still smaller stream, to pass which he had to strain. About a year ago it became necessary to sit down and strain as at stool in order to urinate, and by straining he brought on a left inguinal hernia. At this time, after suffering severe pain in the region of the prostate for a time, he noticed that on straining a few drops only came from the penis, but a large amount from the anus. This condition has persisted until now. Most of the urine is passed from the anus on straining; there is no leakage at other times. He has lost some flesh during the past year, but he has no organic disease.

From the history we can safely make the following diagnosis of the course of the case: Cicatricial urethral stricture of gonorrhœal origin; abscess of the prostate opening into both rectum and urethra and resulting in a urethro-rectal fistula; left inguinal hernia. Notice that nothing is said of fecal mater passing through the urethra. This is the usual condition, owing partly to the oblique direction of the fistula from above and in front downward and backward, and partly to the small size of the fistulous tract.

Such a diagnosis is confirmed by the examination, which revealed a stricture of the deep urethra through which, after the passage of a filiform bougie, a tunneled catheter, No. 6, French scale, could be passed. Through the rectum, the prostate felt hard and enlarged, and in a median depression there was felt a small button of granulations indicating the rectal opening of the fistula.

Such a fistula is not very common. It may result from the breaking down or ulceration of carcinomatous

or tubercular processes in the prostate, but more often it is the result of a prostatic abscess which ruptures into the rectum as well as into the urethra. Under the latter conditions a permanent fistula does not necessarily or usually result. The urethral stricture is largely accountable for the permanence of the fistula in this and other cases by making the passage of urine by the normal route difficult, and by the frequent passage of urine through the fistula preventing its closure.

Such fistulæ have often given much trouble to cure, and many have resisted all attempts at closure. Operations on the plan of Sir Astley-Cooper's have been the most successful. In this operation, through the incision for external urethrotomy and perineal drainage of the bladder, the fistula is divided transversely to its direction between the rectum and the prostatic urethra, and the two halves are curetted. Into the rectal half a little gauze is packed from the perineal incision, without passing through into the rectum, and the prostatic half is opened up into the perineal wound. The gauze packing and the large perineal drainage-tube prevent the urine from passing into the rectum, thus allowing the rectal half to heal while the prostatic half heals with the rest of the perineal incision after the withdrawal of the tube.

The division of the fistula and the longitudinal or lateral displacement of the two halves, so that they no longer correspond or form a continuous tract, are rendered impracticable by the firm connections between the rectum and the prostate and trigone of the bladder. If a procedure such as I have described should fail, a freer exposure of the parts would be indicated. This could be obtained by a transverse incision in front of the anus and slightly concave dorsally or, still better in such a case, by a short median perineal incision curving around to the left of the rectum and then passing backward a variable distance in the median line, an incision which I have employed in one case of "lateral prostatectomy" by von Dittel's method. By such incisions and exposure of the parts between the rectum and the prostate we could divide the fistula, freshen the edges, and suture the rectal part. The rectal portion is the key to the situation, and, if healed, assures success in nearly every case not due to a malignant or a tubercular process.

In this case we operate first for the radical cure of the inguinal hernia, as it is more feasible and more important to have this part of the operation aseptic. The method we employ is a combination of Bassini's and Halsted's. First find the external abdominal ring, by slightly invaginating the scrotum; then incise down to the aponeurosis of the external oblique muscle, for the distance of four inches or more, from a point over the course of the cord one inch below and internal to the external ring upward and outward a little more vertically than the canal and to a point an inch or two beyond the internal ring.

In this incision several veins of some size are usually

\* Delivered in Bellevue Hospital to the students of the University Medical College.



met with, as you see here, and are clamped before or after division. I call your attention to the fact that these vessels rarely require ligature. In fact, in these hernia operations we hardly ever use a ligature on a vessel, but before we are ready to open the sac we clear the field of clamps after first twisting the vessels. In this or any operation where we suture the wound completely the fewer the ligatures the fewer are the possible sources of infection.

The external oblique aponeurosis and the external ring are easily seen and felt, as you see, when we reach them. Introducing the left forefinger well up into the canal in front of its contents, we slit up the canal and search for the sac, expecting to find it in front of the cord. It is often more easily found here in the canal than below the external ring. When it is found it is opened and the opening marked by a clamp.

Starting from the margin of the opening, it is much easier to secure the sac proper and then separate it from its surrounding parts than if we tried to isolate the sac before opening it. For if we try to isolate the sac plus some outside layers, it is much more difficult than if we have the sac alone. Occasionally there is considerable difficulty in separating the sac from the cord and its vessels, but not often if we have the sac alone and nothing else with it. If the cord and its vessels are too roughly handled there is danger of setting up an epididymitis, which we may treat by the local use of guaiacol, the cautery, and dry poultices.

If the canal has not been already slit up to its full extent it is slit up now into and beyond the internal ring, and the weaker and less muscular the abdominal wall the farther beyond the ring is the incision carried. We can now isolate the neck of the sac until it begins to spread out funnel-like above, indicating that we have reached the point where it is continuous with the parietal peritonæum. At the latter point, the sac being empty and pulled out tightly, a ligature loop is passed through and tied around it in a Staffordshire knot. During this act the forefinger in the sac prevents the inclusion of the contents in the ligature. The ligature saves time as compared with a regular suture of the peritonæum, which we sometimes practise, according to Halsted's method, if for any reason the neck of the sac has been split or torn up. In freeing the inner side of the neck of the sac we almost always meet with a layer of fat adherent to the peritonæum of the sac and to the parietal peritonæum. If this fat is excessive we may remove much of it, but if we attempt to remove it all it is very easy to tear through the neck of the sac, and it does no harm to include some of the fat in the ligature.

In isolating the neck of the sac, and especially in removing any excessive fat to its inner side, we should bear in mind the possibility of a hernia of the bladder, which, if not recognized, may lead to serious if not fatal consequences from a wound of that viscus. In a recent case of this kind, of the commoner or extraperitoneal variety, I

fortunately recognized the condition, and was able to reduce the herniated part of the bladder and proceed as usual. Remember that the part of the bladder protruded in such cases bears little if any resemblance to the normal bladder, but is likely to be very much thinned.

For the ligature we use stout catgut, chromicized catgut, or kangaroo tendon, according as the circumstances of the case demand a ligature that will remain unabsorbed a shorter or a longer time. In cases of not too old or too large hernias stout catgut is sufficient in my experience. Let me caution you against using non-absorbable materials for ligatures or buried sutures in hernia operations; for they are very apt to give trouble sooner or later, even after remaining quiet as long as two or three years, though more commonly earlier.

In ligating the neck of the sac we do it as high as possible by making traction on it when the ligature loop is passed through, so that when the traction is let up the inner surface of the parietal peritonæum spreads out smoothly. The same object may be obtained by twisting the neck of the sac and then tying it off, as recommended by Bassini. But it is quite possible that a simple circular ligature may slip off, as I found that it did in one case where, after operating on a hernia, I opened the abdomen for a septic peritonitis due to an injury and not accounted for by the contents of the hernia. The ligature was found to have slipped off, probably in a mild fit of coughing before the laparotomy. Since then I have always passed the ligature through as well as around the neck of the sac to prevent its slipping.

We now cut away the sac to within half an inch of the ligature and see that the cord is well freed up to the internal ring, as it is to be brought out at the external angle of the incision.

I have not often found it necessary to reduce the size of the cord by removing some of the veins, as Halsted has proposed. In the very few cases where I have tried it I have found some difficulty from hæmorrhage or the large number of ligatures required, unless I removed all the veins contained from the pampiniform plexus, for the plexiform arrangement often, or usually, continues up into the canal, making a partial removal difficult. In two recent cases I have found a large amount of fat in and about the cord. This fat I have removed, for if, being left, it should atrophy, it would leave the opening through which the cord passes unnecessarily if not dangerously large.

We now proceed to sew up the canal, beginning just internal to the cord and often placing one suture external to the cord. We include in the suture not only the cut walls of the canal, but pick up with the forceps its dorsal wall, formed by the transversalis fascia and (internally) by the conjoined tendon, and include them in the suture. If we did not pick them up with the forceps we might in passing the needle through them also include or puncture the deep epigastric vessels, or even

wound the external iliac vessels. After passing the necessary number of sutures to close the canal and the external ring, we tie them and find, by examining with the finger, that the canal and external ring are entirely obliterated.

The cord, after it emerges from the abdominal wall, is made to pass between the skin and the external oblique aponeurosis, after Halsted's method, instead of under the aponeurosis according to Bassini's. The latter's method requires an additional layer of sutures, and the cord is in a position where it is more shut in, so that it can not escape from the pressure of a truss, if one is required, and is in danger of being compressed by cicatricial contraction. To avoid its being imbedded in the main scar, and in order to strengthen the latter, I have for some years employed from three to five figure-of-eight or X sutures of silkworm gut through the edges of the skin and those of the aponeurosis, brought together by the deep suture. These sutures were recommended by Dr. Fowler, of Brooklyn, and I think they are of service. When tied, they bring the skin close down to the line of the deep suture, and the cord lies above them, where there is more room than below, between the incision and Poupart's ligament. The ends of the incision are now sewed up by a continuous suture of silk or cat-gut, without drainage, and a proper dressing is applied.

The patient should be kept in bed for four weeks, and for six weeks should do no hard work. Although these wounds uniformly heal by primary union and the patients are thus well, so far as the wound is concerned, in ten days, I do not agree with Kocher in letting them up and out then, so that if poor they need lose little time from work, for the scar is not firm enough at this time to insure safety against recurrence.

As to the results of the operation, there is hardly any mortality in proper cases and in proper hands. The functional results, also, are so excellent that I am not in active search of another method of my own or another's devising, though the number published from time to time would seem to indicate that all do not get such satisfactory results. In view of the low mortality (or the lack of it) and the excellent functional results, we can safely recommend this operation not only to those doing manual labor, in whom a truss is ineffective or painful, but to all hernia patients with whom a truss is either ineffective, irksome, or unpleasant.

We now proceed to operate on the urethro-rectal fistula on the lines of Sir Astley Cooper's operation as described above.

Besides the strictures of the urethra, which we divide by a combined external and internal urethrotomy, we find somewhat of a transverse ridge on the floor of the outlet of the bladder, which in my experience is not an uncommon condition and accounts for many obstinate genito-urinary conditions. This ridge is incised mesially and the vesical outlet fully dilated by the finger. With the aid of a speculum in the rectum we can see what we

described as having felt—namely, two lateral projections of the prostate and a button of granulations in the median depression between them. A bent probe passes in here and touches a large sound in the urethra, and can also be felt on the floor of the prostatic urethra by the finger introduced into that portion. Guided by the finger and the probe, the fistula and the tissues for a little distance around it are completely divided at right angles to the probe.

We now thoroughly scrape with a small, sharp spoon the two halves of the fistula, and pack the rectal half at its prostatic end with a very little iodoform gauze, introduced through the perineal incision. A large rubber perineal tube is now introduced and the bladder is washed out with warm boric-acid solution.

We will leave this tube in for some time, at least two weeks or even more, and remove the packing in five days or a week, and shall then expect to find that the rectal opening has closed. The urethra easily admits a No. 31 sound, French scale, and will no longer be a factor in the case.

NOTE.—The perineal tube was left in nearly three weeks. Nothing marred the closure of the fistula except that, about four or five weeks after the operation, what was described by the nurse and patient as fecal matter passed from the penis on one occasion. This was not seen by the house staff or myself, the occurrence was not repeated, and the patient made a perfect recovery. He now passes urine only through the penis and in a perfect stream.

117 EAST THIRTY-SIXTH STREET.

## Original Communications.

### A STUDY OF SOME INFANT FOODS IN COMPARISON WITH MOTHERS' MILK.

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THE tendency in infant feeding at the present time is clearly toward as close an approximation as possible to woman's milk—to the scientific rather than the empirical method. In view of this fact, it has seemed to the writer a matter of importance to ascertain how near some of the more widely used infant foods approach to this now theoretically accepted standard.

Owing to the varied nature of the so-called "infant" foods—to the lack of any recognized standard of composition for the various sorts of foods, farinaceous, malted, Liebig, etc.—it becomes evident that the most practical and most satisfactory method of comparing an infant food with mothers' milk is to analyze the food as it is prepared for the nursing bottle. Due weight must necessarily be given to the directions for preparing the food for use; for these are plainly of primary importance in determining the real food character and value of the product. It is the food in the nursing bottle that is fed to the infant, and it is the composition of this

product that we need knowledge of. Some of the directions, however, are so vague and offer such a wide variation in the proportion of the several ingredients that it would seem as if they were purely empirical and designed simply to give some food which would in some way agree with the child.

It should be pointed out, however, that many of these foods do not specifically purport to resemble mothers' milk. The general tenor of their makers' statements is that they add something to enrich or improve cows' milk for the nutrition of an infant; for instance, that cows' milk is, by the process of manufacture, by the drying with farinaceous and saccharine matters, made more digestible and wholesome for the infant, or that the addition of malted grains renders the milk more suitable, or better adapted for an infant's food. Moreover, the physical properties and characteristics of most of these foods are such that it would be difficult to suppose it was ever intended that they should resemble mothers' milk. It is, however, contended for nearly all these foods that the casein is in some way rendered digestible, so that it will curdle like mothers' milk, etc.

In preparing these foods for analysis, the directions given by the manufacturer have been followed as closely as possible, and where, as in the case of some of the foods, different proportions are recommended for different ages, the food has been prepared as directed for infants of six months, this being deemed the best course to pursue for comparative study; thus placing all on a fair basis, each to the other, as to the relative composition of the foods as actually in use at six to twelve months.

The analyses, therefore, present the composition of the several foods when ready for the nursing bottle, with water, milk, and cream added as specified in the directions. The accompanying table gives the results obtained, expressed in parts per hundred.

In the following discussion of these foods, it is the food as prepared for the nursing bottle that is to be understood as referred to.

A careful study of these results reveals many inter-

esting facts. Thus, only two of the foods show a specific gravity at all analogous to that which is usually taken as the average for mothers' milk; and these two foods contain an amount of solid matter not far removed from that of mothers' milk. The others have a comparatively low density in harmony with their smaller proportion of solid matter, two, as the table shows, having but about fifty-four per cent. and one sixty-three per cent. of the solid matter present in mothers' milk. Hence, whatever the character of this solid matter, these three foods are far weaker fluids than ordinary breast milk.

The very great difference in the physical properties of these foods should be mentioned, especially in view of the fact that some of the foods when warm are comparatively fluid and become quite thick or gelatinous upon cooling.

Just here, it is well to remember that the solubility of the constituents of milk does not depend upon temperature. Lactose, mineral salts, and maltose are readily soluble in cold milk as well as in cold water; so that cows' milk, or a properly modified milk, is not noticeably thinner when warm than when cold. When, however, fresh milk has been evaporated to dryness, the solid matter so obtained is not soluble or readily diffusible in water, owing to the incorporation of hard casein and fat. In Nestlé's milk food, for instance, there is a very rapid separation of the milk mixture into two distinct layers—viz., an upper thin layer, and a heavier layer containing considerable insoluble albuminoid and starch.

The thickness of a food such as Nestlé's and imperial granum particularly is undoubtedly due to the presence of starch, which thus shows its characteristic behavior upon mixing with water and boiling.

With regard to the amount of mineral matter, two contain approximately the same percentage as mothers' milk, while the others have either an excess or deficiency of these important elements, the excess being in all cases due chiefly to alkaline carbonates. Although the proportion of inorganic salts present in milk is small, the

*Composition of some Infant Foods as prepared for the Nursing Bottle in comparison with Mothers' Milk. Prepared according to Directions for Infants of Six Months.*

	Mothers' milk.*	Malted milk.	Nestlé's milk food.	Imperial granum.	Apollinaris food.	Pancreatic milk powder.
Specific gravity.....	1031	1025	1024	1025	1031	1032
Water.....	86.73	92.47	99.76	91.55	88.60	86.65
Total solid matter.....	13.26	7.53	7.24	8.45	11.40	13.35
Inorganic salts.....	0.20	0.29	0.15	0.34	0.47	0.26
Total albuminoids.....	2.69	1.15	0.81	2.15	2.62	2.60
Soluble albuminoids.....	2.60	1.15	0.86	1.97	2.62	2.60
Insoluble albuminoids.....	0	trace	0.05	0.48	0	0
Fat.....	4.1	0.68	0.36	1.54	2.80	4.68
Milk sugar.....	6.35	1.18	0.81	2.71	5.25	7.20
Cane sugar.....	0	0	2.87	0	0	0
Maltose.....	0	3.28	trace	trace	3.20	0
Starch.....	0	0.92	0.44	0.58	0.55	0
Soluble starch.....	0	0	0.44	0.58	0	0
Starch.....	0	0	1.99	1.92	0	0
Reaction.....	alkaline	alkaline	alkaline	alkaline	alkaline	alkaline

\* According to Leeds.

† By direct estimation.



importance of mineral matters in the nutrition of the infant is not to be ignored or lightly passed over. The growing infant must have a bony framework to support its rapidly developing tissue, and if the necessary elements are not contained in its daily food, how are they obtained?

The albuminoids which are so essential for the growth and well-being of the animal organism, whether young or old, are seen to vary in these foods from 0.81 to 2.62 per cent. Compared with mothers' milk, all but two show wide variations. Imperial granum and milk modified by peptogenic milk powder, however, contain practically the same amount of albuminoids as average breast milk. Mellin's food, on the other hand, contains thirty-one per cent. more albuminoids than mothers' milk itself; malted milk has fifty-seven per cent. and Nestlé's food forty per cent. of the albuminoids present in mothers' milk.

It is to be noted, further, that differences exist in the character of the albuminoids present, as indicated by the fact that in some of the foods a certain proportion of the albuminoids is in an insoluble form. Thus, in imperial granum, more than one fourth of the total albuminoids are insoluble. In Nestlé's food more than one half of the albuminoids are in an insoluble form.

There are still other differences, not shown in the analyses, that need to be considered in connection with the albuminoidal matter of these foods. Thus it is a well-known fact that the albuminoids of human milk differ in a number of ways from the corresponding bodies in cows' milk. Leaving differences in chemical composition, etc., out of consideration, we may merely call attention to the way in which casein behaves when fresh cows' milk is mixed with dilute acid, as the hydrochloric acid of the gastric juice. Woman's milk, when mixed with dilute acid, such as one-per-cent. acetic acid, or 0.2-per-cent. hydrochloric acid, yields a soft, flocculent precipitate of albuminoid, which is very different from the tough and solid curd formed in cows' milk. The difference is not due merely to difference in the proportion of albuminoid contained in the two milks, but rather to the nature of the substance itself. Simple dilution of cows' milk with water is without avail in obviating this tendency of the milk to form tough and more or less indigestible curds. It is obvious, therefore, that any method of modifying cows' milk that aims to produce a product analogous to mothers' milk must take into account this radical difference in the nature of the two caseins.

The very first step in the process of digestion is the precipitation of the casein in the stomach by the combined action of the acid of the gastric juice and the rennet ferment, and with a weak stomach the form in which the casein is precipitated is a mater of some moment. As to how far this difference has been taken into account in the preparation of the foods under consideration, we

can in a measure judge from the behavior of the several foods toward dilute acid.

This may be readily ascertained by placing a given amount, say five cubic centimetres of 0.2-per-cent. hydrochloric acid, on a watch glass, and then allowing the food to fall, drop by drop, upon the acid.

A simple and suggestive method is also to take some bulk, say two ounces of the warm food, in a glass and add the acid little by little, stirring gently. Tested by these methods, it will be found that malted milk and Nestlé's food both yield a fine, flocculent precipitate on the addition of acid. Of malted milk it is stated that the casein of the milk of this food is altered by the action of plant pepsin, as a part of the process of manufacture. The incorporation of fresh, unaltered cows' milk with saccharine and farinaceous matters, and concentration and reduction to a dry pulverulent form, must result in a food containing casein in fine, hard, granular particles, and this may account for the fact that a dried milk food like Nestlé's, when diluted and prepared with water, does not behave at all like fresh milk casein to dilute acid.

We have a striking illustration of this in the behavior of Mellin's food with the acid. Here the casein separates in flocks or curds when the dilute acid is added to the prepared food, thus showing that the addition of soluble maltose and dextrin to fresh milk does not of itself noticeably modify the character of the casein.

In milk modified by the imperial granum, the addition of acid causes a very thick separation of the casein, and the separated casein appears gelatinous rather than curdy, due probably to its intimate mixture with the starch paste of the imperial granum. The lack of the true casein curd common to cows' milk upon the addition of acid is not due in this case to solubility of the casein. It is the result evidently of mechanical mixture of farinaceous matter with the casein, by which the precipitated proteid is kept more finely divided. Further, it must not be overlooked that this result is accomplished by the addition of a substance wholly foreign to the natural food of an infant, and it may well be questioned whether such a mixture is well adapted to its normal digestive functions.

In milk modified by the peptogenic powder, the specific statement is made that the albuminoids of the milk are truly modified by the process to which they are exposed when the diluted milk and cream are warmed with a specified amount of the powder. In conformity with this statement it is found that the precipitate produced by acid, while naturally bulky from the due amount of albuminoids present, is composed of soft, non-adherent coagula. It is further evident, from the bulk of this precipitate, that the proteolytic action made use of in the preparation of the milk for the bottle has by no means resulted in the complete digestion of the proteids of the milk, the transformation resulting simply in a modification of the casein, with solution of a

small amount of proteid, so that the precipitate produced by acid is much less bulky and less coherent than that from similarly diluted cows' milk, to which has been merely added maltose or lactose. So far as our results show, cows' milk, modified by peptogenic milk powder, is not to be classed with predigested foods, for the reason that the proteids of the milk are so altered as to render them closely analogous to the proteids of mothers' milk without converting them wholly into soluble albumoses and peptone.

These observations naturally raise the question of whether any of these foods, when made ready for the nursing bottle, contain active forms of enzymes of any sort, particularly proteolytic or amylolytic. So far as we can find, the answer to this question is entirely in the negative. None of these foods when prepared for use contain any active enzyme capable of converting either starch or proteid.

The enzyme of the peptogenic milk powder is obviously destroyed in the boiling to which the fluid is subjected during the preparation of the food. Hence the conclusion that all of these foods when prepared for the nursing bottle are to be judged solely on the basis of their food value, since none of them possess any recognizable digestive power.

Neither is any one particularly or unduly digestible as compared with mothers' milk. Their utilization by the system depends wholly upon the digestive power of the infant's own secretions.

With reference to the quantity of fat contained in the several foods when prepared for use, only one contains any approach whatever to the amount characteristic of mothers' milk. In the food prepared by the peptogenic milk powder the natural deficiency of fat which results from the dilution of cows' milk has been overcome by the addition of a certain amount of cream, an addition which, as the analyses show, is fully competent to attain the end in view. In all the other foods the deficiency of fat is marked, as the table of analyses shows. The necessity and importance of adding cream or fat to fresh cows' milk, in order to bring the proportion of fat up to that of mothers' milk, is here well illustrated, while the deficiency of fat in the foods prepared with the dried milk products is extreme—very far below that of mothers' milk.

The carbohydrate material of mothers' milk, as well as of cows' milk, is composed solely of milk sugar. In human milk the average amount, according to Leeds, is 6.93, while in cows' milk the percentage of the sugar is nearer 4.5. In malted milk and in Mellin's food the total carbohydrate matter, represented by milk sugar, maltose, and dextrin, is not widely divergent from that of breast milk. It is to be remembered, however, that maltose and dextrin are foreign substances, not contained either in cows' milk or human milk, and, while both are undoubtedly possessed of high food value, yet it is equally evident that Nature gives preference to milk

sugar or lactose as the proper form of carbohydrates for the nutrition of an infant.

As soon as the growing infant acquires the ability to subsist upon solid foods the farinaceous matters naturally consumed are converted into dextrins and maltose by the enzymes of the several digestive juices. But, prior to this period, the food provided by Nature for the sustenance of the young is characterized by the complete absence of every form of carbohydrate matter except milk sugar. It may be said that infants thrive as well upon maltose or sucrose as lactose, but in the writer's judgment there is no good ground for such an assertion. It may be true, but positive proof is wanting. However, at the present time, the writer's purpose is to simply call attention to certain facts bearing upon the chemical composition of infant foods in their relation to mothers' milk; and, limiting ourselves to this point, we see on reference to the table, that only one product compares with breast milk in the kind and proportion of sugar present. All the others contain more or less milk sugar; but in addition to this carbohydrate they are characterized by the presence of variable amounts of maltose, dextrin, cane sugar, soluble starch, or starch, all of which are foreign to natural milk.

The writer would not be understood as speaking in a derogatory way of any of these food products, or as eulogizing one product at the expense of another. They are all, no doubt, of value and useful, but with one exception, when prepared for use, they show wide variation from the composition of human breast milk. It may, perhaps, be a matter of opinion as to what constitutes the best diet for a young infant; but if we are to adopt mothers' milk as the standard, then it is well for us to consider how far and in what respect the infant foods widely used differ from this standard.

Cows' milk is without question the best material available for the nutrition of the infant when the latter is deprived of its natural food, and any modification that will render this fluid more closely analogous to breast milk is certainly to be recommended on physiological grounds. That there is no special difficulty in modifying cows' milk so that it will resemble mothers' milk, both qualitatively and quantitatively, is clearly apparent from the analytical results shown in the table. Cows' milk, modified by the addition of water, cream, and peptogenic milk powder, offers a product containing to the full extent all of the proximate principles present in human breast milk and wholly free from extraneous admixtures. The proportion of solid matter, fat, albuminoids, carbohydrate, and inorganic salts corresponds as closely as one could ask with what is considered as the average chemical composition of mothers' milk, and in this respect the product differs notably from all of the other products examined. Further, the process of modification takes into account the radical difference between cows' casein and human casein, and affords a method by which the former can be modified

to a closer resemblance to the latter without the addition of any substance that will permanently interfere with the purity of the final product.

The general resemblance of milk modified by the peptogenic milk powder to the infant's natural supply is a very striking one. The logical outcome of the present scientific attitudes must ultimately place infant feeding on a practical, exact basis which will supersede the empiricism which has too long prevailed. In the consistent pursuit of this scientific attitude lies the only hope of any real progress.

### EXPERIENCE WITH PILOCARPINE IN THE TREATMENT OF THE URÆMIA OF BRIGHT'S DISEASE.\*

By CHARLES J. PROBEN, M. D.

THE introduction of the active principle of jaborandi leaves by Gubler, lauded for its remarkable physiological effects, and its recommendation for a vast number of diseases, has suggested no greater field of usefulness than in the treatment of anasarca, albuminuria, eclampsia, and uræmia resulting from nephritic disorders. Whatever speculation the theory of uræmia may invite, whether solely due to the retention of urea or other nitrogenous excrementitious substances in the blood, or whether due to other acquired vitiated blood changes, with or without vasomotor disturbances, the most practical inference of relief would appear to be a diversion of this poison to some organ which is capable of temporary augmented elimination. We are cognizant of the fact that these toxic elements produce a most profound impression upon the circulatory apparatus, the nerve centres, and the viscera, and that relief is urgently demanded, especially if coma or eclampsia supervenes.

If strict dietetic regimen, hydrotherapeutics, diuretics, and cathartics prove of no avail, the office of the skin as an eliminator should finally be called into account. A decidedly rapid and energetic impression on the sweat glands is indicated, and what drug at our disposal would seem to meet this demand more vigorously than pilocarpine, the active principle of jaborandi leaves? True, these leaves contain other alkaloids, and an amorphous substance called jaborine, which is akin in its physiological action to atropine and a direct antagonist of pilocarpine; hence none but the crystalline salts of pilocarpine should be prescribed. Two other alkaloids; pilocarpidine and jaboridine, are described by Merck, the former simulating pilocarpine and the latter jaborine, but these are of no interest to us here. Let us rather briefly consider the physiological action of pilocarpine. An infusion of jaborandi leaves requires ten minutes for its physiological action, while a hypodermic injection

of a pilocarpine salt, which is far more trustworthy, requires but from three to five minutes.

The phenomena observed from a full dose in an adult are markedly increased secretions emanating from the skin and the salivary apparatus. Incidentally it acts slightly on the genito-urinary organs, exerting a contractile spasmodic influence on the bladder wall, producing, at times, pain over the pubic region with an irresistible desire to urinate. On the renal organs its action is practically nil, though Tyson attributes to it a slight diuretic action; granting such an action to occur, no beneficial results can be thus attributed to it in Bright's disease.

On the eye, pilocarpine acts as a meiotic, producing slight impairment of vision; its local use finds but a meagre place in ophthalmic practice. As a galactagogue Cheron and Ringer have recommended it in one-twelfth-grain doses. A minor action is manifested on the nasal, lacrymal, and intestinal mucous membrane. A unique effect, and one worthy of more attention than has been bestowed upon it, is its stimulating nutritive effect on the hair, causing it to grow, and to become coarse and darker in color. Andre and Prentiss have demonstrated its practical utility in alopecia by recording and exhibiting some rather remarkable results. The sialagogue effect of pilocarpine is manifested somewhat earlier than the sudorific. The saliva, which at first is thin and aqueous, soon becomes viscid and ropy, and is secreted so rapidly and in such quantity that there is a continual flow from the mouth, so that the person is unable to speak, and has been known to have nearly become suffocated. A similar secretory activity may overcome the tracheal and bronchial mucous membrane, pouring mucus abundantly into the tubes, thus materially impeding respiration. The sialagogue effect may persist for two hours and bear a distinct relationship to the sudorific activity. As a rule, both secretions are very much increased, but one function may be much more active, thus diminishing or partially replacing the other. German authorities estimate the saliva secreted to be from two hundred and fifty to seven hundred and fifty grammes. Americans think it nearer five hundred to a thousand, which must be regarded as an enormous quantity. The secretion is due to a direct stimulation of the submaxillary, sublingual, parotid, and buccal glands, as the action continues after section of the nerves. This peripheral effect suggests its local application to the parched condition of the buccal mucous membrane and tongue in diabetes, and practical experience bears out its utility. No urea is said to be secreted by the saliva (Schwann, Craig, Peliere). After a primary flushing of the face the sudorific effects become visible on the exposed parts, extending rapidly over the whole surface. Half an hour shows the height of this process. The transudation of fluid becomes very profuse, and is visible as little beads exuding from the mouths of the glands, which coalesce, and the quantity becomes so enormous that the sweat

\* Read before the New York County Medical Association, May 18, 1896.



rolls from the body, thoroughly wetting the bedclothes. It has been estimated that thus an adult secretes five hundred to a thousand cubic centimetres of fluid. Brunton thinks the latter figure nearer the truth, while some have assumed that as much as three thousand cubic centimetres is a possibility (Prentiss). This latter amount seems rather exaggerated, even in spite of intrinsic causes which may notably influence the result. Given a person in bed, well covered, in a warm room, with ingestion of copious draughts of warm water in order to supply the loss by transpiration, the sweating stage may be continued for hours, thus materially increasing the quantity. The difficulty of estimating the amount only approximately accounts for the discrepancy existing among the various observers. After the flushing of the face, which is but short in duration, the sweating becomes active in half an hour and persists for four or five hours. During this time the skin is pallid, showing that the sudoresis is not due to a determination of blood to the surface, but rather to a direct action of the drug upon the sudoriparous glands, being a peripheral and not a central action, as the sweating continues despite the section of the nerves. Coincident with the onset of sweating there is a slight rise of the internal temperature, averaging half a degree to one degree Fahrenheit. This is, however, not so constant as the fall, which is secondary, and persists for a day or two. The reduction depends upon the heat loss due to the profuse transpiration and the subsequent vascular depression.

The quantity of solids secreted is still a matter of speculation; it is assumed that about a gramme is abstracted by a "sweat," which is quintuple that normally lost. In uræmia we would naturally expect a large quantity of urinary constituents to be excreted, but in the absence of experimental proof the quantity can only be surmised, Bartholow thinking it to be enormous.

The effects of pilocarpine on the circulatory apparatus are striking and of great practical importance. That it has any but a salutary effect is recognized by the increased frequency of the cardiac beats, the pulsations increasing often forty to fifty a minute, with a decided lowering of the vascular pressure demonstrated by the diminished tension of the arteries. A primary slowing of the pulse, with increased arterial tension, may be recorded, which is, however, evanescent. The undesirable effects of pilocarpine on the circulation are attributed to a relaxation of the arterioles caused by the vasomotor paralysis, and a direct depressing effect on the cardiac muscle, diminishing its energy and increasing the number of cardiac beats. This depression of the heart is very much akin to that caused by nicotine. The toxic effects of pilocarpine are neutralized by atropine; the cardiac beats may be brought back almost to the norm; its action of antagonizing the secretory effects is also quite marked. In three men the perspiration caused by an infusion of *jaborandi* (one drachm each) was distinctly arrested by one one-hundredth of a grain of atropine.

In a case on record the toxic effects of nine tenths of a grain of atropine were neutralized by the hypodermic use of pilocarpine; the enormous dose of nine grains was given in divided doses during two hours with final success. A similar case is recorded in which four grains and a half of pilocarpine were injected during a period of seven hours to neutralize a grain and a half of atropine, with an ultimately favorable result. The antagonism of these drugs, so well established, should call for its more general application in toxic cases, though atropine poisoning has been far less amenable to treatment than pilocarpine poisoning. Following the exhaustive sweats produced by pilocarpine a stage of marked depression appears, in which the vitality is lowered and debility persists for a number of days. The skin is pallid; there are languor, chilliness, frontal headache, dizziness, drowsiness, with disturbances of vision. These symptoms are due to the diminished quantity of fluid in the arterial system, with a lessened vascular tonus. Nausea, vomiting, and diarrhoea may be the onset of a severe and alarming condition. Collapse may confront us, with extreme weakness, contracted pupils, slow, sighing respiration, vertigo, and a feeble, rapid pulse, which is an alarming condition, and for which the appropriate remedy is atropine and the circulatory stimulants. So much for the effects of pilocarpine, and now let us tersely review some of the uses it has been put to.

Its prompt and vigorous action suggests a use in those disturbances of the economy in which the lessened secretion accounts for an accumulation of toxic elements in the blood, which imperatively call for rapid elimination by other channels. It is known that in sweating many diffusible salts are carried off, and that that unknown one or number on which uræmia depends is probably included. Especially is this the inference when the blood is surcharged with these toxic elements. Admitting that pilocarpine has proved itself very beneficial in some of these instances, its application would naturally not have to be restricted were it not for some of the untoward effects which may appear when they are least expected. Not being able to meet the underlying pathological cause, it must be designated a palliative remedial agent, and its use is naturally restricted, but is permissible if it can tide the afflicted over the critical period. Hence we see only temporary, meagre, and uncertain results can be expected from diaphoresis in chronic Bright's disease. In some of these cases inactivity of the skin is noted, especially if accompanied by dropsy, and the slow response to chemical sudorific agents should give the preference to the hot-air bath, hot pack, and similar procedures, which are not as embarrassing to the circulation as pilocarpine. The labor and inconvenience entailed in executing such troublesome measures outside of the hospital account for the preference given the more readily executed and relatively simpler method of hypodermic injection. In extremely urgent and dangerous cases the patient is generally too

exhausted to bear the depressing effects of pilocarpine without jeopardizing his chances of recovery. Even if kept under constant surveillance and as a *dernier resort* such a hazardous measure should, in general, be emphatically condemned.

Barker, Henoch, and Sanger have in good time sounded a word of warning and decried the use of pilocarpine in puerperal eclampsia and the uræmia of chronic Bright's disease. Barker has on record three fatal cases due to its use in puerperal eclampsia (uræmic); one died with an excessive transudation into the pulmonary cells, cerebral oedema, and cardiac paralysis; another with marked effusion into the pleural cavity, and a third with convulsions and symptoms of depression. Sanger reports three cases of puerperal eclampsia treated with pilocarpine; two patients died and one recovered, each experiencing suffocative symptoms from inability to swallow the saliva. Similar cases can be found scattered throughout the literature, but they are meagre compared with the number I expected to see. In view of these facts, are we justified in resorting to so dangerous a remedial agent as pilocarpine, even assuming that salutary effects are obtained, but not sufficient to overbalance those depressing and alarming ones on the circulation which may unexpectedly arise? There is still a division of opinion on this important subject, and I will cite the opinion of some of our authors. On the one hand, we have Wood and Osler, who laud this remedy: the former considers it the most efficient remedy for uræmia at our command, while Osler, after having abandoned its use, seeing several cases of collapse follow, has recently resumed it again with beneficial effects in doses of a sixth to an eighth of a grain. On the other hand, we have Loomis, Strumpell, Barker, Sanger, McLane, Murray, and others who more or less condemn its use. Loomis considers it a dangerous remedy, and says it may be used, but cautiously. Strumpell uses it only exceptionally, giving the preference to hot baths. The American translator, Shattuck, is inclined to use it in large doses in uræmic convulsions (a quarter of a grain), but admits that it sometimes acts as a decided cardiac depressant. These remarks apply solely to the treatment of uræmia and other allied affections of Bright's disease by pilocarpine. Barker has shown its danger, and states that the depressing effects produce wakefulness, an unwelcome condition antagonistic to the hypnotic influence on the nervous system which we desire to attain; from this fact alone he considers its use in eclampsia is contraindicated. In uræmia, after failure of repeated attempts to stimulate the various excretories and eliminate the noxious materials from the blood, very bright expectations are entertained from active stimulation of the secretory apparatus of the skin by pilocarpine. Assuming that one thousand grammes of fluid are thus abstracted, containing a half of one per cent. of urea, and this is a high allowance, the total quantity of urea secreted would barely be one seventh that voided diurnally by the normal kidneys; hence,

amelioration only, and not such brilliant results as depicted, can be expected. Besides, the depressing effects call for the greatest circumspection in its administration in the presence of any indication which may permit of its use. Probably the only justification for its use in uræmia is where there is a simple hypertrophy of the heart with a strong action, and here its effects are said to be immediate and striking. It is not so much the uræmia, eclampsia, or dropsy which confronts us, but the contractile power of the heart which forms the sole guide to the advisability of its administration. The paralyzing effects of pilocarpine on the arterioles and heart muscle prevent the proper propulsion of the blood, necessarily favoring stagnation, thus retarding rather than relieving the circulation.

This stagnation obtains in the pulmonic as well as the systemic circulation, and in the former produces rapid transudation with hyperæmia and resultant oedema of the lungs, a very frequent cause of death when pilocarpine acts unfavorably. Hence any dullness at the posterior portion of the lungs, especially at the base, from decubitus, with fine crepitating or mucous rales and an accentuated pulmonic second sound, forms a distinct contraindication to the use of this drug. General emphysema of the lungs, with a dilated right ventricle, which favors a stagnation in the pulmonary parenchyma, accompanied by impeded breathing and a tendency to cyanosis, also forms another decided contraindication. In pleurisy, with a marked effusion, displacing and consequently crippling the heart, it would be considered hazardous to administer pilocarpine. In coma, especially if intense, the reflex actions are inhibited, and those necessary for the swallowing of the saliva are checked, thus favoring the filling of the bronchial tubes with secretion, a condition which is apt to be followed by a fatal result. We have already seen that the condition of the heart muscle should form the sole guide to the advisability of administering pilocarpine, and the pulse being an indicator of that action may erroneously be used to interpret its intrinsic condition. To accurately ascertain the condition of the cardiac muscle, auscultation with the binaural stethoscope should be preferred. Progressive valvular lesions, especially if with disturbances of compensation; degenerations of the cardiac walls producing impairment of the muscular energy, with a diminished, indistinct, and impaired first sound, a feeble apex beat, and a frequent, irregular, intermittent, or dicrotic pulse form a class distinctly contraindicating the use of the drug. Fatty degeneration, dilatation, the so-called senile heart, and cardiac insufficiency, indicated by an indistinct, feeble, and diffuse apex beat, are included thus. Especially in the aged, in whom fibroid, fatty, and calcareous changes take place in the arteries as an atrophic and retrograde process of senile decay, and similar processes probably occur in the coronary arteries with degeneration of the cardiac muscular fibres, this rule particularly obtains.



To recapitulate briefly, we would say in general that any impairment of the first cardiac sound indicative of inefficient contractile power, with a weak apex beat, diminished arterial tension, and a feeble rapid pulse, would call for the exclusion of pilocarpine from our therapeutics. Hence a thorough examination of the heart is of paramount importance. As my discourse is specially directed to the contraindication for the administration of pilocarpine in the treatment of uræmia, I beg you will pardon me for transgressing the limits of this paper and indulging in a few remarks relative to the modern treatment of uræmia. Far more successful and striking than diaphoresis are the effects of directly attacking the blood and abstracting a certain quantity from the veins and replacing the amount by the introduction of a hot, sterile, saline solution. Beverley Robinson estimates that thus about ten times more urinary constituents are eliminated from the body than by diaphoresis. Such heroic measures have their limitations, but where the danger is imminent, the patient robust, with a high tension pulse, the abstraction of five hundred or six hundred, or even a thousand grammes, with the subsequent replacement of fluid, is followed by the most surprising results. The resulting emptiness of the vascular system may produce syncope, but in order to avoid this, a liberal quantity of hot saline solution (about one or two litres) is supplied, which dilutes the toxic elements and produces the most rapid and prompt diuresis known. It is my opinion that venesection is but rarely indicated, and the fluid to be supplied to the vessels may be taken up by the lymphatics from high rectal enema or cellular infusion. These are, however, subordinate to intravenous infusion, which is a prompt and decided diuretic, washing the urinary salts from the system quickly when a prompt action is required. An experience with two cases of uræmia, using intravenous infusion, leads me to corroborate the immediate effects and results obtained by Beverley Robinson and others. In conclusion, allow me to briefly outline a few histories recording some of the adverse results obtained from pilocarpine in the treatment of uræmia in my earlier experience:

CASE I.—C. A., a woman, aged forty-two years, presented herself to me with two large varicose, indolent ulcers of the legs of over five years' duration. Intermittently they would heal and reopen, so that I suggested Thiersch's skin-grafting. Nothing was detected in the general health or the urine to contraindicate the administration of an anæsthetic. Ether was given, the operation performed, and subsequent union proved satisfactory. The ether, however, produced a recrudescence of an old, undetected kidney lesion, which constantly diminished the quantity of urine, so that at the end of the third week the quantity voided was scarcely half a pint, in spite of diuretic and other treatment. Urine: specific gravity, 1.020; about one per cent. volume albumin; numerous granular and hyaline casts and epithelial cells; urea, five grains to the ounce. Heart and lungs appeared normal; no cerebral symptoms, except somnolence during day and delirium at night. Diagnosis:

Chronic uræmia with interstitial nephritis. The different forms of treatment that were instituted proved unsuccessful, the patient constantly getting worse; even the hot baths and air bath repeated daily failed to relieve, producing but slight sudoresis. At the beginning of the fifth week, as a *dernier resort*, I administered a third of a grain of pilocarpine hydrochloride hypodermically. Within ten minutes I was summoned to the bedside of the patient, who before appeared fairly rational and with a good pulse, and found her condition as follows: Collapse, semi-coma, rapid superficial respirations, accompanied by large rales heard at quite a distance, a feeble, flickering pulse, cyanosis of lips and finger tips, cold extremities, the surface covered by a cold, clammy perspiration, especially so over the face, etc. Auscultating the lungs showed them to be disseminated with large, moist rales, especially posteriorly, the heart sounds feeble, indistinct, and tumultuous. Diagnosis: Collapse from cardiac paralysis, with pulmonary oedema, due to the toxic effects of pilocarpine. Dry cupping, hypodermic injections of glonoin, digitalis, and strychnine proved of but temporary use and the patient succumbed within two hours. None but slight salivation and perspiration was noticed; apparently the pilocarpine had exerted its whole action on the cardiac muscle.

CASE II.—A woman, aged forty years, entered Charity Hospital with slight oedema of feet and eyelids; very anæmic, flabby; ocular disturbances and long-standing history of diminution in quantity of urine. Heart appeared normal, pulsations ninety per minute. Urine: quantity voided diurnally, thirty ounces; albumin, two per cent. by volume; granular casts; renal epithelium and diminished percentage of urea to the ounce. Diagnosis: Chronic interstitial nephritis with uræmia setting in at the late stage. Strict dietetic regimen, cathartics, diuretics, etc., of little avail. After being in bed for ten days, apathy, somnolence, twitching, and other cerebral symptoms developed, for which the hot pack and the hot-air bath were repeatedly ordered. No appreciable result was obtained, and muscular twitchings appeared, for which a fifth of a grain of pilocarpine was given hypodermically, in conjunction with the hot-air bath. About fifteen minutes later I saw the patient in collapse with rapidly increasing pulmonary oedema. No appreciable salagogue effect was noticeable, but a slight diaphoresis, though cold and clammy, covering forehead. The patient succumbed of cardiac paralysis with oedema of the lungs within two hours.

CASE III.—J. K., aged forty-eight years. Inebriate, with symptoms of alcoholic gastritis and diminished excretion of urine, which contained a trace of albumin, numerous granular and hyaline casts, and a specific gravity of 1.020. Bordering on the typhoid condition, with delirium, incoherence of speech, twitchings, and increased reflexes, he was treated for uræmia. Heart sounds normal; pulse 100°, with fairly high tension. Diagnosis: Chronic gastritis, cirrhosis of liver, chronic diffuse nephritis, with uræmic toxæmia. Vasomotor dilators, diuretics, cathartics, hot-air baths, etc., were resorted to without relief. Finally, increased impending nervous disturbances called for heroic measures, and a fifth of a grain of pilocarpine was given hypodermically. As in the two previous cases, collapse supervened: the pulse was fine, rapid, and intermittent, and there appeared symptoms of general venous stasis. A cold perspiration covered the face; pulmonary oedema rapidly set in, with quite marked salivation, which necessitated the laying of the patient on the side in order to allow the saliva to



escape. So marked was that that it materially expedited the dissolution, which occurred in about an hour. Atropine, camphor, and other cardiac stimulants were unable to neutralize the toxic effects of pilocarpine.

The rapidly uniform and fatal action following the use of pilocarpine in the above-cited cases, where apparently no contraindication for its administration existed, has incited me to raise my voice in protest against the use of this drug in the treatment of uræmia, for it has proved itself, not alone in my hands but in those of others, an untrustworthy and dangerous drug. Not in the least do I desire to disparage its use in some ailments where it has proved itself extremely useful and a valuable addition to our materia medica; but in the conditions enumerated above, where it jeopardizes the life of the patient, I emphatically protest against its further use. I doubt not that similar experiences could be recorded by others, were it not for the reluctance of offering our failures for just criticism. The loose statement of our text-books that this remedy may be employed with safety impress the reader that the drug may be resorted to with impunity. In Bright's disease, especially that form in which the circulatory appendages are involved, occurring generally in the senile state, we must reason that cardiac degeneration incapable of detection takes place, and if, for any reason, the use of pilocarpine may seem indicated, the drug should certainly be proscribed. When I was interne at Charity Hospital, the general routine treatment for uræmia was hot-air baths and pilocarpine injections, and I recollect cardiac failure and pulmonary edema were frequent causes of death, coming on shortly after its administration. Why it is that pilocarpine can be given with impunity in some diseases and should prove so dangerous in others, as in nephritis, I am not prepared to say, save that the general invasion of the vascular system by pathological processes produces cardiac changes which impair its energy, making it unable to cope with the depressing effects of the poison given. It has been established, and can not be controverted, that pilocarpine is a marked cardiac depressant and a dangerous remedy to administer in uræmia, that its sphere of usefulness is but a limited one, that it should be banished from our therapeutics of Bright's disease, and that its application should be relegated to another sphere.

970 LEXINGTON AVENUE.

**The Rush Medical College, of Chicago.**—Professor Edwin Klebs has been elected to the chair of pathology. We learn that the college has recently been recognized by the examining board of the Royal College of Physicians and the Royal College of Surgeons, of London, England. This recognition entitles its alumni to all the privileges accorded to the graduates of other institutions recognized by that board.

**A Medical Senator.**—The *Union médicale* says that Dr. Parisot has been elected a senator.

## THE BACTERIOLOGIST AND PATHOLOGIST IN MEDICINE.\*

By HENRY M. BRACKEN, M. D.,

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EVERY medical man appreciates, or should appreciate, the importance of the study of bacteriology and pathology. Through their aid the diagnosis of disease may often be assured where formerly there would only have been a diagnosis by conjecture. They make the scientific treatment of disease possible. The physician or surgeon of the present day who is unable to utilize these scientific guides is in a pitiable plight. The medical schools, recognizing these facts, now make it possible for every medical student to acquire a sufficient knowledge of these subjects to serve him as aids in diagnosis when he enters upon his professional work.

But this is the age of specialization in medicine, and there are excellent reasons for specializing bacteriology and pathology. While the general practitioner may have sufficient knowledge of these subjects to use them in his daily duties, he may have neither the time nor the conveniences for going carefully into the necessary detail, and he should be glad to find those who are willing to devote their whole time to such scientific investigation, to whom he can turn for advice. As a matter of fact, these subjects are specialized, and we find in the bacteriologists and pathologists of the present day scientific consultants who should command at one and the same time our respect and their legitimate fees. The possibilities for carrying out such a line of specialization should be as great as in any other branch of medical work. But are they? Do the bacteriologist and pathologist secure proper recognition? I think not. How often do we meet with experiences quite similar to that of the following illustration: A physician with a doubtful case of pulmonary tuberculosis, where an absolute diagnosis without bacteriological investigation is impossible, but where an absolute diagnosis is of the greatest importance to the patient. The physician in charge sends a quantity of sputum to the bacteriologist for examination. The examination is made; a positive diagnosis is given. The patient is governed in his manner of life and place of living by the diagnosis of the bacteriologist and recovers his health. Both the patient and the attending physician should be very grateful to the bacteriologist for his opinion, which practically was the means of saving the patient's life. Notice now the amount of appreciation shown by them. The bacteriologist asks for a modest fee, with the result of calling down upon himself abuse from both physician and patient. The patient says: "I was quite satisfied with my attending physician and was quite willing to follow his advice without your opinion. I do not recognize your right to a fee." The attending physi-

\* Read before the Minnesota State Medical Society, Minneapolis, June 17, 1896.

cian says: "My dear sir, you have done nothing remarkable. I could have made the examination of the sputum myself had I dared to take the time, but I thought that you, with your laboratory conveniences, would be only too glad to do such a little thing as that as a matter of professional courtesy to me." The bacteriologist thus gets nothing but abuse for his painstaking work. The physician who has not been willing to reward science regards the scientist whom he has been treating in such an unprofessional manner with a feeling of contempt, and possibly of pity, because he prefers to follow such a life work rather than to make himself a practising physician. So, too, with the pathologist. He is not given his proper place. For example: A surgeon with a case requiring an operation is in doubt as to the proper course to pursue, or as to the probable outcome of an operation. He calls another surgeon to meet him in consultation over the case. The consultation may be of advantage to the attending surgeon; it may be of advantage to the patient; it may be of little benefit to any one. The consultant, however, is respected by the attending surgeon as well as by the patient and his friends. Without regard to the outcome of the consultation, the consultant expects his fee—often a good round one—and gets it. Contrast with this consultant the pathologist who may be called upon by the surgeon to clear up a doubtful diagnosis in a case where the true character of the disease should be known, if possible, before an operation is performed, in order that the surgeon may determine the limits and character of the operation to be performed. It may also be a case in which it is desirable that the patient or his friends should know the true character of the disease in order that matters of greater or less importance pertaining to the patient may be regulated accordingly. The pathologist, after making a most careful examination, requiring a great deal more time and quite as much skill as that given by the consulting surgeon already referred to in our illustration, gives an opinion that determines the action of both surgeon and patient. The attending surgeon, the patient, and the patient's friends are well satisfied with the pathologist's opinion. The pathologist sends in a request for a modest fee—quite modest as compared with the consulting surgeon's fee—thinking that of course it will be paid willingly. Not so. The patient says: "I did not care for your opinion. The responsibility was upon the attending surgeon. I had perfect confidence in him. It mattered little to me what the outcome of his action would be." The surgeon says: "The patient is quite right in objecting to your fee. It is outrageous for you to make such a charge. I asked for the examination simply out of curiosity. I would have operated without an opinion from you as to the true condition of the patient, and the result would probably have been quite as successful. I simply thought you would be pleased with the opportunity for making such an examination." Thus the poor pathologist goes

unpaid, while the consulting surgeon was well paid. And yet, of these two consultations just described, which had the greater probable value—the one which was only an expression of judgment or the one which was a statement of facts? It is thus, in too many instances, that the general practitioner stands to the scientific medical man. He recognizes and acknowledges the importance of scientific investigation; he appreciates the fact that he has neither the time nor the ability to make such investigations so carefully as can the man who gives his entire attention to scientific matters; but he is not willing to give the scientist the position of a consultant, so far as to demand for him his legitimate place and compensation. It is time that the bacteriologist and the pathologist were recognized as consultants of a high order. Their work requires their constant attention. They must be not only observers but investigators. The results of their investigations have much to do with our knowledge and treatment of disease. The medical man who chooses to follow the life of a scientist rather than that of a practitioner is generally making a financial sacrifice, and we should not increase this burden by expecting him to give us and our patients the benefit of his knowledge without compensation. We should show our appreciation of his work whenever we have opportunity.

So much for the relationship of the scientific specialist in medicine to the general practitioner. There is still another point of view from which we must observe him. One of the functions of State medicine is to prevent or limit the spread of infectious diseases among men and animals. For this purpose all suspected individuals should be subjected to a most rigid inspection. The statement that an infectious disease exists in a given case means the quarantine of the infected individual, or even, in cases of certain infectious diseases among animals, the death of the infected one. At best, quarantine is a hardship. It is often the cause of considerable financial loss. Interested parties have a right to demand a most careful examination of the suspected one before quarantine is forced upon them; an examination that in many instances can not be thorough without the aid of the bacteriologist. This fact is so generally recognized at the present time, that State and municipal boards of health appoint expert bacteriologists to investigate all suspected cases of quarantinable diseases among men and animals. Please notice the limit of responsibility of bacteriologists holding such appointments. It extends only to quarantinable diseases. We may demand of the State or municipal bacteriologist an inspection of tuberculous animals, because tuberculosis among animals is a quarantinable disease, but we have no legal right to ask for an investigation of a tuberculous suspect among men, because this condition is not yet classed as one subject to quarantine, and is therefore not under the control of boards of health. If such an investigation is asked for in the case of a human being, the bacteriologist is then in the position of a consultant, and should be recognized

as such. It is worthy of note, however, that tuberculosis among mankind, typhoid fever, and certain other diseases not yet subject to quarantine, can not too soon be placed, by the proper authorities, under the surveillance of the bacteriologist.

The appointment of bacteriologists for work of this nature should be more general. There ought to be a bacteriologist in every city or town throughout the State, in order that prompt examinations might be made when necessary. Of course, such work can be referred by local boards of health to the State bacteriologist, but this often involves a considerable loss of time. It might not be wise to ask of every local board of health the appointment of a salaried bacteriologist, but it should, when possible, appoint some competent physician to whom proper subjects for investigation might be referred. The State bacteriologist would then be in a position to advise and consult with the local bacteriologists. Many an outbreak of diphtheria or other infectious disease among men, or of tuberculosis, cholera, etc., among animals, might be prevented by the prompt action that would be possible were such appointments common. There is a danger from the appointment of incompetent men to fill these places of responsibility, but such dangers should not and will not exist when the medical profession fully appreciates its duty in preventive medicine. It is true that at present it is not always possible to find a competent bacteriologist in all places where an appointment should be made. Of course, under such circumstances no appointment should be made, for a poor bacteriologist is worse than no bacteriologist at all; he is a very dangerous quantity. This fact simply emphasizes the importance of our medical schools giving more attention to instruction in medical subjects bearing upon preventive medicine. In fact, a special course in State medicine should be a common feature of medical education. It is especially true in medicine that "an ounce of prevention is worth a pound of cure," and this fact should be impressed upon all sanitary authorities, upon the medical profession, and upon the laity.

#### SOME REMARKS ON THE PRINCIPLES OF TREATMENT OF SIMPLE ACUTE LARYNGITIS AND BRONCHITIS.\*

By THOMAS HUBBARD, M. D.,  
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THE purpose of my paper is to encourage authoritative discussion on a certain question, and it can best be served by a text and brief presentation of theories and clinical facts. The literature, both authoritative and current, is full of inconsistencies to the extent of obscuring the therapeutic principles involved.

The pathology of simple acute inflammation of the

upper and middle respiratory tract has received much enlightenment in this decade. We accept with modifications some of the theories bequeathed to us. They have the merit of having been tested by generations of practical clinicians, and form the basis of rational therapeutic principles. They may be briefly summarized as follows:

1. A congestive reaction following exposure to cold.
2. Hyperæmia due to irritation from dust and vapors.
3. Inflammation due to chemic irritation of the mucous membrane, from vicarious elimination of the products of disturbed tissue metabolism incident to certain systemic disorders, such as a general "cold," acute indigestion, lithæmia, and, in general, disturbances caused by suboxidation.
4. Reflex vasomotor disturbances and localized angioneuroses.
5. To these we now add inflammation caused by pathogenic micro-organisms and their products. These may be inhaled, or they may invade the larynx and bronchi from diseased foci of the throat and nose, or from systemic infection.

The term "expectorant" is full of beneficence. It is an excellent thing on general principles to cast out of the pectoral organ that which offends, and likewise the exfoliated cellular *détritus* and spent secretions. "Stimulating expectorant" is a still more felicitous expression. In the days when nauseant and relaxant expectorants were used heroically to unlock the emunctories, and when it was quite the rule to be made more sick in order to get well, stimulating expectorants were a Godsend. The puked, physicked, and phlebotomized patient welcomed a high degree of stimulation.

I will quote an old English medical aphorism as embodying my argument: "Never give stimulating expectorants until the skin is moist and the phlegm loose; it will do no good. You must give ipecac and relaxant expectorants as long as the skin is dry and the phlegm tough."

The gist of my contention is that we are losing sight of the proper relations of these two classes of expectorants, relaxing and stimulating. We are discarding inelegant nauseants, and using indiscreetly and irrationally the stimulating expectorants fortified by sedatives. This has been brought about in part through lack of confidence in the more agreeable relaxing expectorants in popular use, and through perfection in the application of local palliatives.

A few of the essentially conservative features of acute inflammation of a mucous membrane may be mentioned. Whether the cause is of the nature of a chemical irritant, self-produced, or a pathogenic organism, the ultimate object of determination of blood to the membrane is to flush away by sero-mucous flow the offending matter, and to antagonize the specific pathogenic agents by pouring out a host of resisting leucocytes.

\* Read before the American Laryngological Association at its eighteenth annual congress.



From the depths of the glands, and from the folds and interstices, mucus and serum, both aseptic and to a limited degree antagonistic to germ life, are poured out and flush the very substance of the membrane. This is the process called "loosening" the cough. We must keep clearly in mind these essential features of acute catarrhal inflammation, and I would add another very important consideration which applies to the tracheal and bronchial membrane especially. The swelling incident to hyperæmia and congestion of a membrane lining a more or less rigid fibrous and cartilaginous tube means necessarily a condensation of the superficial tissue elements of the membrane. As the calibre of the tube is encroached upon, a given number of epithelial cells must be crowded into a smaller area. This closes the orifices of the muciparous glands and checks mucous flow. Mucus retained in the substance of the membrane may undergo chemical changes, and become acrid and irritating, even though there be no specific pathogenic ferments present. This may cause even sapræmia. Much more injurious to the integrity of delicate epithelial cells are the ptomaines of specific germ origin. The only relief in either instance comes by inducing a free mucous flow.

There is a clinical fact in this connection of great practical importance. An acute inflammation of the respiratory tract is often progressive, much after the manner of erysipelas of the skin. Resolution may be well established in the larynx and trachea, and yet the bronchi may be in the acute stage. How very often our patients seem to have a loose cough and yet complain of a feeling of tightness and pressure over the bronchi! It is a good therapeutic maxim to direct the treatment according to the more severe condition. Neglect of this precaution encourages the development of a progressive capillary bronchitis or catarrhal pneumonia. When the larynx is in the primary acute stage, and the bronchi are in the relaxed condition and secreting freely, the prognosis for quick recovery is more favorable. Often we find that the larynx is being constantly reinfected from an unhealthy throat and nose, and once the tide of mucous flow is established from bronchi toward the throat the larynx is relieved, and speedily recovers the normal condition.

The important processes tending toward recovery are, first, a free flow of mucus and serum from the substance of the membrane, and, second, rapid expectoration. Secretions retained in the larynx and bronchi ferment and irritate the membrane. The fact is reaffirmed that we have two distinct classes of therapeutic agents with which to meet the special indications above mentioned. The skillful use of those first indicated—namely, to encourage free secretion—is the *sine qua non* of successful treatment. The too early use of stimulating expectorants encourages rather the absorption of the inflammatory products than a natural elimination. They are expectorants only after free secretion is established.

Alteratives, astringents, stimulating vapors, and antiseptics have all one predominating effect on an acutely inflamed mucous membrane, which obscures any special therapeutic influence. They are all irritants, and in varying degree antiseptics. We may add that stimulating expectorants are likewise irritating except under certain conditions to be mentioned.

The secondary effect of an irritant on mucous membrane is, as a rule, to produce a sero-mucous flow depleting the tissues. When iodine, alumnol, or nitrate of silver preparations are applied to an acutely inflamed mucous surface, the more delicate epithelial structures are offended, and the membrane weeps in self-defense. Coagulated mucin and incorporated cells, and likewise pathogenic organisms, are flooded away and antagonized. They may be called depletory antiseptics. Tissue congestion is relieved, and the symptoms may be temporarily, very rarely permanently, alleviated. As a rule, the ultimate damage to the membrane is more than the beneficial effect of lessening congestion and removing a part of the offending material, and the reaction which follows is worse than the original condition.

A class of remedies which may appropriately be called vasomotor stimulators, or arterio-capillary contractors, has come into prominence recently, more especially in the treatment of acute laryngitis. Cocaine, atropine, strychnine, and hydrastine are the more commonly used. In mild cases not associated with bronchitis or pharyngitis they may be depended on, and relieve many symptoms, but in more severe cases their use, local and internal, may retard that natural process of resolution which is the first step toward recovery.

Sedatives and local anæsthetics, such as opiates, cocaine, and menthol, should be used with caution. Opiates dry the mucous membrane and thicken the mucus. The effect of cocaine is pernicious. Menthol gives only very transient relief. The best sedative to an inflamed larynx is a flow of non-irritating bronchial mucus. All treatment should be directed toward this end, and all palliative treatment which retards it should be avoided.

Keeping the principles expressed in the precept of Fothergill clearly in mind, the first thing to determine is the choice of a relaxing expectorant. Ipecac is excellent, but very slow in action in ordinary doses. It usually destroys appetite. Vascular sedatives, such as the tartrate of antimony, lobelia, and aconite, produce so great a degree of vasomotor depression and general relaxation that copious diaphoresis is encouraged, and the patient catches more cold, aggravating the condition for which it was given. They may be administered only when the patient will remain in bed, and the same may be said of pilocarpine.

For about five years I have been using apomorphine, freshly compounded in acidulated mixture, and regard it as the best of all relaxing expectorants. In one-thirtieth-grain doses, at two or three hours' intervals, it rarely fails to cause a free sero-mucous flow in twelve

to thirty-six hours. In cases of severe laryngitis and bronchitis rest is an essential adjuvant. Appropriate general treatment is, of course, implied. Codeine sulphate in one-fifth-grain doses, given independently *pro re nata*, is the best sedative.

Apomorphine in acidulated mixture rarely causes nausea in the doses mentioned, and in fact seems rather to aid digestion and increase the appetite for a limited period. It is slightly laxative. It can be given for many days in doses gradually decreasing as the expectoration becomes more free. Since using this remedy I find less and less use for stimulating expectorants and sedatives. The apomorphine should be administered as long as improvement is decided. A sero-mucous bronchial secretion is coughed out very easily. Only in debilitated subjects, or where there is a broncho-pneumonia, have I found it necessary to supplement this treatment with stimulating expectorants. Of these I regard the carbonate of ammonium as the best, administered in a mucilaginous vehicle or as the fresh aromatic spirits.

A clinical study of this question of relative values and indications for relaxing and stimulating expectorants, and a review of the literature over a considerable period, has prompted me to present this paper. I may add that, in fact, the comparison of results in my own practice, and also in cases under the care of others, strengthens my conviction that the aphorism of Fothergill concerning the use of expectorants is sound, and, further, that in just so far as we have drifted away from it have we deteriorated in our principles of therapeutics of simple acute laryngitis and bronchitis.

## THE PROPHYLAXIS OF NASAL CATARRH.\*

By CARL SEILER, M. D.,  
PHILADELPHIA.

THERE is no doubt in the mind of any laryngologist and rhinologist that what is generically known as nasal catarrh is due primarily to two principal causes; in fact, if I may be permitted to state my opinion, that in reality there is but one primary cause which produces this prevalent disease, and that the other is merely a predisposition called into activity by the one.

To quote the opinions of the different authors would be but a waste of time and labor, because a careful scrutiny of their writings has convinced me in the opinion which I have just expressed. They may differ apparently in their interpretation of the causes of simple nasal catarrh, merely in the sense in which I use the term; namely, not depending upon an acquired constitutional or systemic dyscrasia or disease, and in its causation by accidental lesions sustained in later life. I therefore feel justified in my belief that the well-understood causes producing acute inflammation of the anterior and pos-

terior nasal mucous membrane lay the seed for pathological changes in that very mucous membrane, and with every reproduction or recurrence of the acute or subacute (begging to differ with Bosworth) subsequent exacerbation can have but one result, and that is an increase of the pathological changes in the mucous membrane and the turbinated tissue of the nasal chambers. Even but a hasty review of the geographical and anthropological statistics of the prevalence of this disease in different climates and among various people, if followed out to its logical conclusion, must lead the careful observer to doubt that the disease in question is one which is not amenable to prophylaxis, but that modern civilization and modern civilized methods of rearing children, together with the long-continued, baneful inherited proclivities and hygienic prejudices, merely confirm the conclusions arrived at by the student of ancient as well as modern anthropology in its relation to modern diseases.

We must therefore logically look for the earliest causes of nasal catarrh in childhood, in children of civilized nations, in the cities, in the habitation and methods of rearing of children by so-called civilized plans of overclothing, overfeeding, and overcaretaking. It is not only the overheating, overfeeding, and overcare which do the harm; it is the method and unsystematic bringing up of children which cause one attack of simple coryza to run into another, and thus become a subacute catarrh; and also the superstition and indolence of mothers, as well as of the general practitioner, who smother the poor infant that has a cold in its head with flannels and blankets even in the midst of summer, and deny Nature's best remedy—fresh air—dosing it with drugs and antiseptics, and neglect cleanliness and pure asepsis. No wonder that the poor sufferer barely recovers from one cold in the head before he is attacked by another; and no wonder that the pathological changes result by accumulation through such repeated inflammatory processes in hypertrophic changes of the turbinated tissue, or, if any systemic inherited dyscrasia be present, speedily changes it into the atrophic form. It is therefore the duty of the medical adviser to instruct the parents in the preventive measures which should be instituted to prevent this prevalent disease, and it is the general practitioner more than the specialist who is at fault in this matter of carelessly encouraging parents in their neglect by telling them that the child will outgrow the disease; and it is also, therefore, the duty of the specialist, who, above all, is most intimately acquainted with the baneful effects in after life of such neglect, to instruct the general profession.

As already indicated in the foregoing remarks, cleanliness not only of the whole body, but of the nasal cavities in particular, whether a cold in the head is present or not, is the primal and most important prophylactic measure that can and should be instituted to prevent recurrence of acute coryza, prevent accumulation, in-

\* Read before the American Laryngological Association at its eighteenth annual congress.

spissation, and putrefaction of mucus, and then finally prevent systemic infection by the ingestion of the products of putrefaction in the most susceptible system of a child.

In dentistry for a long time this same principle of cleanliness has been insisted upon by the dental surgeons, and they have successfully instructed the parents in taking care, with brush and powder, tooth washes and antiseptic lotions, of not only their own but their children's teeth, to prevent decay, so that the general practitioner—except in remote country towns—is but rarely called upon to extract decayed molars, and the ravages of neglected dental caries, which but a quarter of a century ago were so common, are but rarely seen nowadays even among the least educated classes of our citizens.

Why, therefore, should not the rhinologist follow in the footsteps of the dental surgeon, and bring about in like manner so marked a diminution of this still commonly supposed incurable disease—nasal catarrh—by prophylaxis? It is no more difficult to teach a child to cleanse the nostrils and anterior cavities with an appropriate wash than it is to teach him, as is done in every family, to use the toothbrush; and we all know that the only difficulty encountered is the prejudice of the parents and the natural abhorrence of the child to such a procedure, which, however, are no greater obstacles than the dental surgeon had to encounter in his instituting a reform.

As in all such matters of reform, it is necessary, however, to first instruct the teacher and make him understand the necessity and the all-importance of adhering to the strict observance of minute details in the carrying out of the method to be employed; and I will therefore hastily sum up my opinions as to the best methods to pursue in preventing the growth and development of nasal catarrh in both its forms—hypertrophic and atrophic—in children; that is to say, the simple, uncomplicated, non-traumatic form of the disease, because the others, of course, need more than hygienic and prophylactic measures.

Let therefore a child, as early as possible in life, be taught to snuff up the nose a warm saline or alkaline solution, with or without the addition of antiseptics, either from the hollow of the hand or from a small cup or glass, three or four times morning and evening, and let no amount of prejudice or recommendation by advertisements or other pressure brought to bear upon the parents allow a douche or atomizer or other artificial appliance to be substituted for this natural method of nasal cleansing; because, in the first place, the natural method being more readily applicable to the child's nature, avoids the natural abhorrence of instruments of any kind in the child's mind; and, second, because they are in most instances either ineffectual in accomplishing the purpose of thoroughly cleansing the nasal cavities, or else are, if they do accomplish the purpose, harm-

ful, as in the case of the douche, by the inordinate pressure of the solution upon the organ.

Also let the solution be of not only a chemically non-irritating quality, but also of such temperature and specific gravity that overheating or chilling of the nasal mucous membrane and osmotic action producing pain and sneezing are avoided.

Of course, antiseptics may be added to the solution at the discretion of the physician to prevent putrefaction and self-inoculation with septic material.

As important, however, as this nasal cleansing is the proper feeding and clothing of children, so that overheating of the general system may be avoided, and the skin, especially around the neck and arms, be so hardened by cold-water applications, in the form of sponging morning and night, that moderate exposure will not readily give rise to acute coryza.

Our American children in particular are, in my opinion, as a rule too much clothed, too much confined indoors, and overfed with heat-producing food, so that when they have left the nursery they are mere hothouse plants, and it takes a long course of outdoor sports with boys to inure them to exposure, with a number of often serious effects of exposure, upon the respiratory organs in particular, to make them strong and healthy; and even then, in many instances, the seeds for nasal obstruction and consequent impairment and weakness of the respiratory tract having been sown in the nursery develop into the more remote effects, and particularly phthisis, so that it is not an uncommon observation that many of our athletic college youths, after having graduated, settling down in business for life, are attacked with phthisis or tuberculosis, which was kept in abeyance only by the outdoor exercise which they had at college.

Of course, I could go on to enumerate indefinitely the well-known hygienic rules and maxims, and the baneful effects of their non-observance, but I have said enough, I hope, in my plea for the intelligent and persistent reform by the laryngologist and the physician in the bringing up of children with a view of in a great measure preventing nasal catarrh and its consequences.

## SOME OBSERVATIONS IN LARYNGEAL TUBERCULOSIS.\*

By S. OAKLEY VANDER POEL, M.D.

LARYNGEAL tuberculosis is both a extension and an extension of pre-existing disease. It is a *pyrexia*, because, when clearly established by laryngoscopic examination, there is no doubt that the lungs either are or will shortly become tuberculous, if not obviously so at the time; it is an extension of a disease, because, as a rule (not invariably, although it may be so), the pulmonary tissue first becomes the seat of tubercu-

\* Read before the American Laryngological Association at its eightieth annual congress.



lar growth, mischief appearing subsequently in the larynx.

The question of the order of time or priority existing between laryngeal phthisis and pulmonary phthisis seems to be clinically fairly well established, for most practitioners recognize it as a rule that laryngeal ulceration is preceded by a destructive pulmonary affection; and, according to my experience, I should designate it as a rule that has few exceptions; for the careful examination of the apices of the lungs with reference to the air they contain, and especially with regard to their comparative height, is of cardinal importance in determining this question. The flattening of one apex as compared to the other, as was pointed out by E. Seitz, of Giessen, permits one to recognize slight cicatricial contractions of the parenchyma at a time when the patient, without regard to this point, must have been pronounced sound, as to his lungs, as even the signs of catarrh of the apex and of diminished air contents may fail in individual cases.

It can not, however, be positively denied that exceptions to this rule do occur. For, as Buhl\* contends, "Nothing wonderful is to be found, *a priori*, in such an appearance of laryngeal phthisis, as in a well-pronounced phthisical constitution the first eruption may take place in some other organ than just in the lungs, and sometimes does so take place; and furthermore, we can not deny the possibility that pieces of detritus thrown off by the laryngeal ulcers, and coarser pieces of tissue, may be drawn into the lung during inspiration and here produce phthisis." But from my own clinical experience I would assert that such an order of development is certainly extremely rare.

I would ask your attention, for a few moments, to the consideration of some of the more obscure points in the symptomatology of tuberculous laryngitis.

We occasionally meet with cases of consumption in which there is simple weakness of voice, in which speaking is effected with great effort, and is often reduced to a whisper, or in which voice is completely abolished. This occurs without any organic change in the larynx, examination showing that the tensors of the vocal cords are weakened, the cords appearing shortened and shriveled, the larynx contracting round its centre in attempted vocalization. It thus resembles the aphonia of hysteria, the chief point of difference being that in the latter case the adductors are usually affected and not the tensors, although this difference is not invariable. The fact that both laryngeal nerves arise from the vagus may account for the liability of either set of muscles becoming thus paretic from irritation of the pulmonary branches of that nerve. Trousseau mentions this "nervous aphonia" in cases of pulmonary tuberculosis.

With reference to these motor disturbances which occur here so often, as has been pointed out by Rud

Meyer, "We must distinguish between the muscular paresis which is so frequent at the beginning of laryngeal disease, and which appears to depend on the general anæmia of the soft parts within the larynx, and the paralysis of the right vocal cord, dependent upon paralysis of conduction of the right recurrent laryngeal nerve, which is often found imbedded and constricted in the hard, thickened pleural tissue about the apex of the right lung." The former, as has been demonstrated, may be quickly removed by appropriate treatment, while paralysis of the recurrent laryngeal, just described, is inaccessible to treatment. We have also to notice the existence of muscular paresis in the final stages, when inflammatory cedema has infiltrated the submucous tissue. This may be explained by the cedema interfering with the mobility of the crico-arytenoid articulations, at the same time causing mechanical hindrances to the locomotion of the arytenoid cartilages.

In some cases of pulmonary tuberculosis which have come under my observation I have been led to believe that there are certain premonitory symptoms in the larynx of a catarrhal character that portend the later development of laryngeal tuberculosis. I refer to cases when, at the time, there are no discernible manifestations of the tubercular process. Bosworth contends that a chronic catarrhal process in the larynx does not predispose to tuberculous disease of the organ; that they bear no definite relation to each other, either causative or otherwise; that the influence, therefore, of a chronic laryngitis as a predisposing cause of tuberculous disease is probably greatly overestimated, although it is undoubtedly true that a phthisical patient, suffering with a chronic laryngitis, is more liable to develop tubercular action than one in whom the laryngeal membrane is in a state of health. In this view I am inclined to concur; still, as I stated, the cases to which I refer showed symptoms which I have come to recognize as preliminary to the development of tuberculous trouble. In my cases there was at first no evidence of ulceration or of tumefaction of the posterior laryngeal wall, so characteristic of the later stages, but merely a slight thickening of the mucous membrane associated with the presence of a white, milky, somewhat purulent, mucous fluid, which secretion contains as yet no tubercle bacilli, but which I have come to consider almost pathognomonic. This secretion is chiefly to be found lodged about the aryteno-epiglottic folds, or may coat the interior of the larynx. This catarrhal condition I have seen to persist for six weeks or two months before the characteristic train of symptoms so common to the later stages developed. Then the subjacent membrane often is covered by minute white points, and when scarified they yield very little blood.

A case in point occurred in the person of a young man, twenty-five years of age, who had been the subject of pulmonary tuberculosis for three years, the disease being limited to the right apex, but which had progressed

\* In Sommerbrodt, *loc. cit.*, p. 265.

to the formation of a cavity. He had spent two years in the Adirondacks, which residence had been attended by great amelioration of all his pulmonary symptoms. Cough and night sweats had disappeared; he had gained fifteen pounds in weight; an examination of the chest which I made in August, 1894, in the Adirondacks, showed the cavity to be healed, there were no bacilli in the sputum, and I looked upon the case as one of cured phthisis.

In the following November he presented himself at my office complaining of aphonia, with slight hacking cough. His general condition was favorable, with no return of his old symptoms, and an examination of the sputum was negative; the larynx, however, presented the appearance just described—laryngeal mucous membrane slightly swollen, of a dull gray color, and coated in part with a milky-white, somewhat purulent mucous fluid. It was not thick or tenacious and was readily removed by the spray. Repeated bacteriological examinations failed to disclose the tuberculous bacilli. The secretion was chiefly to be found lodged about the aryano-epiglottic folds. This condition of larynx continued for some six weeks, when it gradually assumed the typical picture of a tuberculous larynx. A further residence in the Adirondacks was of no avail and the case terminated fatally in a few months. When the disease involved the epiglottis, this shriveled and rendered deglutition difficult and painful, while if it were much ulcerated, food would find its way into the larynx.

Tuberculous infiltrations may occur over the arytaenoid cartilages and subsequently soften, or ulceration may occur in the vocal cords, chiefly at their posterior insertions. Frequently, however, the cords escape when there is most extensive ulceration elsewhere. Aphonia may be produced by very little mischief; but, on the other hand, ulceration, unless it attack the vocal cords, may be extensive without there being much aphonia. The prognosis in these cases, notwithstanding the operative interference which of late has been so much in vogue, is still somewhat disheartening.

#### OBSERVATIONS UPON EYE DISEASES AND BLINDNESS IN THE COLORED RACE.\*

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The negro we must have with us, therefore a study of his propensities to disease and the peculiar characteristics of certain forms when affecting this race is a legitimate field for discussion. The interest centred upon them in a social and political relationship with the whites demands that they shall have their history established

and recorded. The medical men of the localities where they are most abundant should carefully study their demologic peculiarities, basing their investigations as near as possible on incontrovertible facts and scientific data.

Most practitioners of experience are acquainted with certain pathological and aetiological peculiarities presented by negroes. In a general way their tendency to thoracic diseases, tuberculosis in all its manifestations, the acquired and inherited results of syphilis, and their lessened powers of resistance to diseases of the colder latitudes, is familiar to every physician.

The surgeon is aware of the frequency of fibroid tumors, and the tendency to keloid development in the race. On the other hand, family practitioners know the power of resistance this race presents to the forms of miasmatic diseases prevalent in the warmer climates, and many surgeons of large experience have never seen a case of epithelioma in a negro. Billings, in a statistical study of the influence of race on disease, states that the colored race is shorter lived, has a higher infantile mortality, is especially liable to tuberculosis and pneumonia, and less liable to malaria, yellow fever, scarlet fever, and cancer. It is well proved that, subjected to the same environments, the adult negro is less resistant to disease than the adult white. Miserable homes (from a sanitary standpoint), combined with poverty and ignorance of the laws of hygiene and personal care, should furnish a fertile field for the propagation of diseases of a bacterial nature.

Most eye diseases are of such a character as can be looked upon directly, and the different phases of many forms of inflammatory action noted. Thus a study of eye diseases in this race presents many interesting features. While aware of a number of these characteristics, my attention was first drawn to the subject by an interesting comparative study by Dr. Swan M. Burnett, of Washington. Since his paper appeared, I have constantly kept a record of observations with the hope of eventually drawing some comparisons from them. This I have attempted in a preliminary manner in the material offered at this time.

The negro as we find him in this locality is not the negro found in the cotton fields and sugar plantations of the extreme South; rarely do we observe one that does not show the infusion of Caucasian blood. Notwithstanding this attenuation, he presents certain peculiarities in the study of eye inflammations that are not the result of accident or environment.

At my request, Dr. Crittenden Joyes has carefully tabulated, from the records of our clinic at the University of Louisville, one thousand consecutive cases of eye disease, exclusive of defects in refraction, as they presented themselves for treatment previous to May 1, 1896. This includes both the white and colored cases, the proportion being 579 whites to 421 colored, and is a sufficient number for our present purpose.

\* Read before the Kentucky State Medical Society, June 14, 1896.

Comparative Table of 1,000 Cases of Eye Disease (Condensed).

	Whites.	Negroes.
Diseases of the lids.....	90	50
"    "    cornea.....	80	107
"    "    conjunctiva.....	276	149
"    "    iris, ciliary body, and chorioid.....	35	70
"    "    lens.....	31	22
"    "    muscles.....	34	6
"    "    optic nerve and retina.....	14	6
"    "    eyeball and orbit.....	7	4
unclassified.....	12	7
Total.....	579	421

In a review of the comparative tables offered, a number of interesting points are apparent.

The first question that presents itself for solution is the comparative frequency of eye diseases in the two races. Is the negro more often subject to eye diseases than the white? This question seems difficult of a satisfactory answer, since it is impossible to obtain the exact number of each race from which our material for study was drawn. The white race in Kentucky outnumbers the colored nearly six to one. Yet we know that in charitable and clinical work this proportion does not prevail, a much larger comparative percentage seeking aid in such institutions being negroes. The only information obtainable that points toward a greater prevalence of eye disease in the negro is that furnished by the United States Census Bureau. If we accept this as accurate, we find that proportionately the number of blind in the State is greater among the negroes, being for the whites 1 in 960; for the colored, 1 in 843. Kollock asserts that in South Carolina blindness is rampant among the negroes.

A point of great interest furnished by our table of statistical comparison is the relative frequency of different eye diseases in the two races. This reveals the fact that the negro race is remarkably prone to certain forms of eye inflammation, and, on the other hand, presents an apparently complete immunity from certain others.

Of the 1,000 cases tabulated, there were 140 cases of lid troubles found. The negro does not show a single case of trichiasis or entropion, and of seven cases of epithelioma all were in whites. On the other hand, hordeola, chalazia, and eczema were noted as fifty per cent. more common in the negro.

Affections of the conjunctiva furnished 425 cases—276 white, 149 colored. In a study of these a most noticeable feature is the much larger percentage of the phlyctenular variety of conjunctivitis in the negro, and the practically complete immunity of the black to trachoma, only 2 cases being recorded to 63 in the white. These two cases were diagnosed by some of the assistants, and were in all probability cases of folliculosis, or so-called follicular trachoma—a form of conjunctival inflammation that at certain stages of its development is very much in its clinical appearance like true trachoma, yet never presents corneal involvement or cicatricial bands in the palpebral conjunctiva. I am of the

opinion that, while this form is sometimes found in the negro, it is exceedingly rare.

Burnett, in Washington, Theobald, in Baltimore, Baldwin, in Montgomery, and others have verified the findings of the statistics here gathered with reference to the immunity of the negro from trachoma. It appears inexplicable that such a disease as trachoma, the bacterial origin of which seems conclusively proved, and which observation teaches is undoubtedly contagious, should show an aversion for the conjunctiva in the negro. Even if, as is maintained by some, an underlying blood dyscrasia is necessary for its foundation (the so-called lymphatic diathesis), as alleged by Noyes, we see no reason why the negro should escape.

The last word has not been said about this most interesting and oftentimes destructive form of eye inflammation. Why it should follow such a different clinical course in different subjects, often attacking an entire family in an isolated community, or why we see so many in whom for years the inflammation confines itself to one eye, are points upon which further knowledge is required before the question can be settled.

That form of conjunctival inflammation that often prevails during the warm season, and familiarly named summer trachoma, or circumcorneal hypertrophy of the conjunctiva, appears to be as frequent in the negro as in the white. These records show it to be slightly more so, and I am sure during the last few years I have seen a larger proportion of such cases in the colored race. This affection, while often giving very much the appearance of both trachoma and follicular conjunctivitis, is undoubtedly a distinct disease.

In the study of corneal diseases, as presented in the table under consideration, there were found 187 cases—80 white, 107 blacks. Corneal inflammation more often than any other form of eye disease is apt to be the result of some vicious constitutional diathesis. Therefore, we should expect a large preponderance of these diseases among the colored. Our statistics show that they are forty per cent. more common in the negro.

The variety of corneal disease most rife is that form of relapsing destructive ulceration characterized as phlyctenular or strumous. Unlike what is true of the whites, this ulceration is as often found in the adult as in the child. That portion of the eye commonly known as the uveal tract, iris, ciliary body, and chorioid, furnished us in our study 105 cases—35 whites, 70 negroes. Out of 58 cases of acute iritis, 43 were in blacks. Of these 43, 33 were shown to be syphilitic. The iris and ciliary body are the parts of the eye usually first showing the ravages of syphilis, and the negro seems to be many times more prone to this complication. Saussure asserts that seventy per cent. of the negro population of the South either inherits or acquires syphilis.

In the study of iris diseases in the negro, our statistics prove a point we have for a long time noted and emphasized—namely, the peculiar proneness for gum-



matous infiltration to accompany the inflammation. Of six cases of gumma of the iris found, all were in negroes. Not only is the iris frequently the seat of such formation, but the only cases of gumma of the ciliary body that have come under my personal care have been in this race. It has been stated that syphilis in the negro does not present itself in the malignant form often seen in the whites, and that it responds more quickly to proper treatment. With this observation the teachings of the statistics presented do not agree. The forms of syphilitic iritis and cyclitis, with extensive condylomatous developments quickly ruining the eye, are found most often in this race, and, while they respond promptly to proper treatment, the inflammation has usually been of such a violent nature as to destroy the usefulness of the organ before the constitutional effect of the remedial agent has been obtained.

Diseases of the crystalline lens offer 53 cases for study—31 whites, 22 negroes—showing no great difference in the tendency to cataract development in the two races. The optic nerve and retina furnish 20 cases for consideration—14 whites, 6 blacks. Of these six, five were cases of primary atrophy of the optic nerve. The frequency with which non-inflammatory optic atrophy is found in the negro is familiar to all, many of them being cases in which it is impossible after thorough examination to find the cause for its development.

Affections of the eye muscles were found most common in the white race. The point of interest gained from these cases was with reference to the statement that has been made that the negro was practically exempt from uncomplicated squint, and, when present, that it was secondary to some intra-ocular disease or corneal macula. While it may not be found in so large a proportion of cases as in the whites, it is by no means uncommon, being in the relation of one to five in the whites. There are no reasons, from a study of this subject, why we should not find as many cases of convergent squint among the colored race as among the whites, since the same conditions that are the underlying factors in squint are present in both races.

The cases upon which these observations were based were gathered as they presented themselves for treatment, and do not include all the cases we have seen. Exclusion was made of those offering for correction of some defect in refraction, preferring to base our study on eye inflammations and diseases alone. Since the negro has been thrown upon his own resources, the struggle for existence has increased his exposure to diseases that lead to eye complications. The extra amount of work thrown upon this organ subjects it to the same demand as the eye of the white race, without the same vital power of resistance.

Further evidence of the prevailing causes of blindness in this race may be gained by a consideration of the colored inmates of the State institution for their educa-

tion at Louisville. These I was permitted to examine by Professor Hunkton. I found of 39 cases, wards of the State, that 51.3 per cent. were blind from diseases that affected the cornea primarily, and of these 33.3 per cent. were from so-called scrofulous keratitis. In the same institution, of 155 whites examined, 18.1 per cent. were blind, the result of trachoma and its sequela, while the colored children did not present a single instance resulting from "granular lids."

*Tabulated Report of Colored Blind Cases at the Kentucky Institute for the Blind.*

	No. of cases	Per cent
Keratitis, phlyctenular . . . . .	13	33.3
Purulent ophthalmia . . . . .	7	18.0
Congenital and lamellar cataract . . . . .	4	10.3
Iridocyclitis . . . . .	5	12.8
Atrophy of the nerve . . . . .	4	10.3
Retinitis pigmentosa . . . . .	1	2.6
Nystagmus . . . . .	1	2.6
Traumatic and sympathetic . . . . .	3	7.7
General disease (small-pox) . . . . .	1	2.6
	39	100.0

A consideration of the material I have here gathered for study, while not disclosing anything new to most of those familiar with the subject, certainly furnished evidence in support of the statement that the negro race will be found to suffer to a greater percentage from the graver forms of eye disease than the white, and that certainly in this State blindness is more prevalent than among the whites. Further, that a well-defined difference exists in the two races in their proclivity to certain forms of eye disease, the negro being particularly liable to the destructive forms of corneal disease and to the varieties of iritis accompanied by condylomatous developments. On the other side, he presents a peculiar, indescribable immunity from that form of contagious conjunctivitis familiarly known as "granulated lids," and a lessened liability to cancerous growths in this locality. Eye diseases as a class follow a more disastrous course, and consequently a larger number of blind are found.

## Therapeutical Notes.

**The Necessity of Rest in Bed in Influenza.**—In Dr. J. F. Goodhart's article on Influenza, in the first volume of Dr. Thomas Clifford Allbutt's new *System of Medicine*, we find the following:

"There is no specific yet at hand for this disease. This is quite certain from the number of drugs that have been regarded as almost infallible by one observer and another. All are agreed, however, that mildness of attack and speedy recovery are best insured by taking at once to bed, and that it is the worst folly to struggle on with work and to attempt to fight the disease—a plan that, although some came through successfully, was nevertheless the cause of the loss of many lives."

**Terror in Bronchorrhœa.**—The following case is related by Ram Dhari Sinha, V. L. M. S., of the Civil Hospital, Rajputana, in the *Indian Medical Record* for June 1st: The patient, a man sixty-five years old, had suffered from bronchorrhœa incidental to pulmonary phthisis for six years. The average discharge was from two to three pints in twenty-four hours. He appeared very weak, anæmic, languid, and despondent. His eyes were watery and injected. He could hardly digest his meals, and there was a violent paroxysmal cough with watery expectoration. A physical examination elicited rhonchal fremitus, harsh, rough breathing, and sonorous rhonchi, with mucous râles toward the inferior angles of the scapulae.

The previous treatment had consisted of the use of De Jonghe's cod-liver oil, Kepler's emulsion of cod-liver oil with malt, Scott's emulsion of cod-liver oil with hypophosphites of sodium and calcium, and a number of patent pectoral syrups, but there had been no permanent benefit. The cod-liver oil had impaired his digestion and caused diarrhœa, dyspepsia, and constitutional weakness. The author prescribed terror in drachm doses three times a day, and after the third day all the distressing and annoying symptoms began to subside. Within six weeks the patient had gained both weight and strength, and at the time of the report was performing his work as usual.

The author states that he has employed this remedy in seven cases of chronic bronchitis, in two of pneumonia, and in one of phthisis, and that he has always found it answer better than any other remedy, so he recommends it to the profession. It has no taste or odor; it does not disturb the stomach and bowels and it is not nauseating; furthermore, it increases the appetite and helps digestion.

**Subcutaneous Injections of Cocaine.**—In the *Gazette hebdomadaire de médecine et de chirurgie* for June 28th there is an article on cocaine by Dr. G. Maurange in which, among other things, he calls attention to the occasional occurrence of such accidents as vertigo, pallor, and a tendency to faintness after injections of even the smallest amount of cocaine. To obviate these occurrences, he advises that the patient should be lying down when the injection is administered, that a solution not stronger than of one per cent. should be used, and that care should be taken not to throw the injection into a vein.

**Aristol in the Treatment of Burns.**—Dr. Paul Walton (*Wiener medicinische Presse*, 1896, No. 24; *Deutsche Medizinisch-Zeitung*, June 22, 1896) reports that for a year he has employed aristol powder systematically in the Hôpital civil in Ghent in all cases of burns, including the most extensive ones, and with very good results.

**Electricity in the Treatment of Vomiting.**—According to Dr. G. Apostoli (*Bulletin officiel de la Société française d'électrothérapie*, 1895, No. 4; *Centralblatt für Gynäkologie*, June 27, 1896), galvanization of the pneumogastric nerve is an effective remedy for the habitual vomiting of hysterical and pregnant women. The electrodes are placed between the insertions of the sterno-cleido-mastoid muscles, and a current of from five to fifteen (rarely twenty) milliamperes is passed for from five to fifteen minutes, or even for an hour or more, until a result is obtained. The application is made after a meal, once or twice a day at first, at intervals of several days as improvement advances.

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FRANK P. FOSTER, M. D.

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THE UNRECOGNIZED CONSULTANT.

PROFESSOR BRACKEN did well to put before the Minnesota State Medical Society, at its recent meeting, the subject of The Bacteriologist and Pathologist in Medicine in an aspect that has been too commonly ignored, that of their title to proper remuneration as consultants in cases in which their special knowledge and skill are called upon to settle a doubt in diagnosis. Dr. Bracken's paper will be found elsewhere in this issue of the *Journal*. We hope it is not often that such rudeness is displayed toward pathologists, microscopists, and bacteriologists as figures in the retorts that Dr. Bracken gives as specimens of what they get when they request payment for their services. There can be little doubt, however, that, rudeness or no rudeness, the value of their investigations is rarely appreciated as it should be or that they are in any way rewarded for their pains. This is all wrong, as Dr. Bracken most forcibly points out. The case ought to call only for statement to be admitted, for no argument worthy of the least consideration can be brought against it.

Two reasons suggest themselves as accounting for the feeling that bacteriologists, pathologists, and microscopists should be content to work without pay, but not as in the least justifying it. One of these is the fact that, while the practitioner is ready enough to bow down before the discoverer or the great investigator in bacteriology, pathology, or microscopy, he has no such feeling for the routine worker in those branches, one who merely applies the knowledge he has obtained from others. Go to, then, O successful and popular practitioner! Where are your discoveries? What evidence can you give us that you have made profound original investigations or are any better than the laboratory plodder? What are you doing in your daily practice beyond applying the knowledge others have taught you? You answer that you are constantly using your reasoning powers, rather than applying humdrum tests, and that the faculty of reasoning is loftier than the combination of carefulness and keenness of perception that rule in the laboratory. Are you not deceiving

yourself just a trifle? Do you really think that a human machine—a being possessed of a stock of special information and endowed with the sense of method—is what you can depend on to set you right in the face of difficulties? Confess, now, that the bacteriologist, the pathologist, and the microscopist are constantly operating nerve centres quite as high as those that guide your footsteps, and are quite as much entitled to good round fees. Consider the chemist. Surely he does not work out of courtesy to you or as your satellite or vassal. Even the anæsthetist, who of old was the youngest doctor or student that could be found, and was expected to find his remuneration in viewing the operation, of which he could generally see little if anything, is now a man who to-morrow may be your peer, and feels that he may. He now presents his bill with as much confidence as you present yours, and with as good reason; and he is paid.

The other occasion of a little loftiness on the part of the practitioner toward the laboratory man is perhaps the mercantile idea—true enough, God knows—that the rub is, not to do the work, but to get it to do. He is the great man who gets the patients; any second-rate fellow might carry them well enough through most of their illnesses or show accuracy enough in diagnosing them with the aid of laboratory appliances; hence he, the great man, is entitled to all the remuneration. But see the fallacy of this notion, to say nothing of its unworthiness; if it applied, the physician or surgeon called in in consultation would find himself obliged to rest content with a pittance or perhaps with the pleasure of observing an interesting case, and we all know that he does not find himself in any such plight. There is, then, no good reason why our friends of the laboratory should not be looked upon as real consultants and treated accordingly. Let them take heart and insist on substantial remuneration, and they will get it. Moreover, the more they get for their services the better will they be appreciated.

#### MARRIAGES OF CONSANGUINITY.

M. PAUL PERRIN has made the consequences of the marriage of near relations the subject of his graduation thesis, and the substance of his argument is given in the *Gazette hebdomadaire de médecine et de chirurgie* for July 2d. He classifies the various opinions held in regard to these marriages as follows: 1. They are almost always unfortunate in their results, and should

be absolutely interdicted. 2. They are in no way harmful, and should be permitted and even recommended. 3. Their influence is good or bad according as the parties are free from constitutional diseases or affected with them; consequently, they are to be permitted or interdicted according to the state of the case.

M. Perrin then considers some of the numerous diseases that have been imputed to such marriages. Idiocy, insanity, and epilepsy, he says, are most commonly inherited, but there are cases in which nothing but consanguinity seems to explain their occurrence. As to infantile convulsions, the causes of them are so numerous that it is impossible to fasten upon this as one of them. Consanguinity may play a part in the production of deaf-mutism, but not constantly. In certain affections of the eye, such as albinism and pigmentary inflammation of the retina, its influence has been observed and, in the case of albinism, pretty definitely proved. M. Perrin does not think that sterility can be imputed to consanguinity pure and simple. If, he says, both the husband and the wife come from large families, their union will probably be very fruitful; if, on the other hand, they are only children, there is a great probability of their remaining childless. In regard to certain congenital deformities, such as polydactylism and clubfoot, they have so often been observed in the children of related parents who were in good health and of good constitution that we are forced to admit the influence of mere consanguinity.

Returning to the three opinions mentioned, M. Perrin says of the first of them, that almost all marriages of consanguinity are productive of unfortunate results, that it is not justified; there is some truth in it incontestably, but it does not take heredity sufficiently into account, and therefore can not be supported. The second goes to the opposite extreme, and charges everything to heredity. Consanguinity and heredity are two parallel ætiological circumstances; they may conspire in the same family to bring about identical morbid consequences, but, on the other hand, the one may exist without the other. So this second opinion must be rejected, notwithstanding the fact that consanguinity in the lower animals generally results in excellent progeny. The third opinion comes nearest to the truth, and may be agreed to with the reservation that in some instances consanguinity of itself alone may exert an unfortunate influence on the children.

The physician who is consulted on the subject may be guided by the following considerations: If the parties



and their parents have no diathesis or any hereditary disease, if they are in full health, of strong constitution, and under favorable climatological and hygienic conditions, the physician should not advise against the marriage, but he should not encourage it, for quite a number of unions fulfilling these requirements have resulted in children presenting serious and irremediable defects. If, however, the physician discovers the least trace of any physical or mental abnormality, he should use his whole influence to prevent the marriage; in cases of concurrent heredity the results would surely be deplorable.

### MINOR PARAGRAPHS.

#### A NEW JOURNAL OF LARYNGOLOGY.

A MONTHLY journal called the *Laryngoscope*, devoted to diseases of the nose, the throat, and the ear, begins its career with the July number, which contains seventy-two large octavo pages of reading matter well printed and well illustrated. It is edited by Dr. Frank M. Rum-bold and Dr. M. A. Goldstein, of St. Louis. The staff of associate editors consists of Dr. M. D. Lederman, of New York, Dr. S. Scott Bishop, of Chicago, Dr. W. Scheppegrell, of New Orleans, and Dr. F. B. Eaton, of San José. A corps of foreign editors is made up of Dr. J. Dundas Grant, of London, Dr. Victor Urbantschitsch, of Vienna, Dr. J. J. Kirk Duncanson, of Edinburgh, Dr. A. Hartmann, of Berlin, Dr. J. K. Kimura, of Tokio, and Dr. G. Sterling Ryerson, of Toronto. The editors state that their intention is "to fill the niche between the strictly special and the general journals with that class of physicians who confine themselves entirely to the treatment of the diseases mentioned or who pay special attention to these troubles while maintaining a general practice."

#### A NEW BELGIAN JOURNAL.

We have received the fifth number of volume one of the *Annales de l'Institut Ste. Anne*, of Brussels, edited by Dr. C. Jacobs, with the assistance of Dr. Thiebaud, Dr. Godart, Dr. Devos, Dr. Borremann, and Dr. Bonneville. It appears to be devoted to gynecology. The number before us is profusely illustrated.

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 14, 1896:

DISEASES.	Week ending July 7.		Week ending July 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	15	3	17	7
Scarlet fever.....	70	7	51	8
Cerebro-spinal meningitis....	2	3	6	4
Measles.....	149	7	194	11
Diphtheria.....	237	37	221	36
Tuberculosis.....	116	121	95	90

**Compulsory Reports of Infectious Diseases.**—Some months ago, Dr. Samuel C. Busey, of Washington, delivered an annual address as president of the Medical Society of the District of Columbia in which he said:

"The experience of the present year has clearly demonstrated the necessity of some compulsory legislation requiring every physician to report to the health department every case of zymotic disease occurring in his practice. No system of sanitation or preventive medicine can be effective without the knowledge of the number and location of every such case of disease, at all times of the year, and more especially during the prevalence of an epidemic. If every case of typhoid fever that has occurred in the District during the present year had been promptly reported to the health department, the fair fame and healthfulness of this city would not have been tarnished by the exaggerated and detrimental reports which have been spread all over the country, and the cases due to milk and water infection and soil pollution could have been classified with almost absolute accuracy. There would have been fewer cases and a lower death-rate. The constantly reiterated statement that this or that family or 'my people' would not permit such reports is a fallacy unworthy of respectful consideration, when the mortuary columns of the local press are teeming with reports of distress and sorrow that bring home to every household the inadequacy of municipal protection from preventable diseases. Every good citizen will willingly submit to a law that offers protection from sorrow, suffering, expense, deaths, and funerals."

**The Buffalo Academy of Medicine.**—The secretary, Dr. Irving W. Potter, announces that the officers of the medical section are desirous of obtaining the titles of any communications which will be offered during the coming year, and it is requested that the titles and the date preferred by the writer be sent to the secretary before August 1st, in order that the programme for the year may be completed.

**The Richmond Academy of Medicine and Surgery.**—At the last regular meeting on July 14th, the order for the evening was a paper on Typhoid Fever, by Dr. W. S. Gordon.

**Change of Address.**—Dr. J. M. Ray, from No. 414 West Chestnut Street to No. 423 West Chestnut Street, Louisville.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 5 to July 11, 1896:*

BACHE, DALLAS, Colonel and Assistant Surgeon-General, Headquarters Department of the Platte, is granted leave of absence for two months, to take effect on or about July 15, 1896.

**Naval Intelligence.**—*Changes in the Medical Corps of the United States Navy for the Week ending July 11, 1896:*

BRODERICK, R. G., Assistant Surgeon. Ordered to the U. S. Steamer Franklin.

GRAVATT, C. U., Surgeon. Ordered to Norfolk with draft of men, then home, and granted three months' leave of absence.

LOVERING, P. A., Surgeon. Detached from the New York Naval Hospital and ordered to the U. S. Steamer Oregon.

**LOWNDES, C. H. T.**, Passed Assistant Surgeon. Detached from the Washington Navy Yard and ordered to the Naval Hospital at Philadelphia.

**LUNG, G. A.**, Passed Assistant Surgeon. Detached from the U. S. Steamer Thetis, ordered home, and granted two months' leave of absence.

**MARMION, R. A.**, Medical Inspector. Detached from the Board of Inspection and Survey and ordered to the Washington Navy Yard.

**WISE, J. C.**, Medical Inspector. Detached from the Washington Navy Yard and ordered as a member of the Board of Inspection and Survey.

**WHITE, S. S.**, Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the U. S. Steamer Thetis.

#### Society Meetings for the Coming Week:

**MONDAY, July 20th:** Hartford, Conn., Medical Society; Chicago Medical Society; Cleveland Society of the Medical Sciences.

**TUESDAY, July 21st:** Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Kings and Otsego (annual—Cooperstown), N. Y.; Baltimore Academy of Medicine.

**WEDNESDAY, July 22d:** American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.

**THURSDAY, July 23d:** New York Orthopaedic Society; Pathological Society of Philadelphia.

**FRIDAY, July 24th:** Cleveland Medical Society.

### Births, Marriages, and Deaths.

#### Married.

**FLEMING—NAMMACK.**—In New York, on Wednesday, July 8th, Dr. David P. Fleming and Miss Katherine Nammack, sister of Dr. Charles E. Nammack.

**MAXWELL—PRICE.**—In Meridian, Mississippi, on Thursday, July 9th, Mr. Caldwell Maxwell and Miss Mamie Price, daughter of Dr. C. S. W. Price.

**SMITH—ANDERSON.**—In New York, on Wednesday, July 8th, Mr. Alfred Keene Smith and Miss Kitty Anderson, daughter of Dr. J. Anderson.

**WHITFIELD—TUTTLE.**—In Avon, N. Y., on Tuesday, July 7th, Dr. Arthur Whitfield, of London, England, and Miss Marguerite Tuttle.

#### Died.

**BROWNLEE.**—In San José, California, on Wednesday, June 24th, Dr. J. D. Brownlee, aged seventy-six years.

**DUNN.**—In Yazoo City, Mississippi, on Thursday, July 9th, Dr. Richard L. Dunn.

**GIBBS.**—In Fort Ann, N. Y., on Monday, July 8th, Dr. Theron Z. Gibbs, aged sixty-five years.

**HOPE.**—In New York, on Tuesday, June 26th, Dr. J. S. Hope, of the United States Navy.

**NEELER.**—In Kahoka, Missouri, on Friday, July 3d, Dr. Samuel Neeler, in the sixty-fifth year of his age.

**PEEPLS.**—In Jackson, Mississippi, on Wednesday, July 8th, Dr. R. W. Peepls, in the sixty-fourth year of his age.

**SEXTON.**—In New York, on Saturday, July 11th, Dr. Samuel Sexton, in the sixty-third year of his age.

**STUMP.**—In Utica, N. Y., on Friday, July 10th, Norman J. Stump, only child of Dr. William Stump.

### Letters to the Editor.

#### REFLEX EPILEPSY.

SHELTER ISLAND, N. Y., July 10, 1896

*To the Editor of the New York Medical Journal:*

SIR: Your issue of July 4, 1896, containing Dr. Peterson's letter regarding reflex epilepsy was forwarded to me while in pursuit of pleasure and health.

I trust that in the fall I may have sufficiently recovered from "mental blindness," to which Dr. Peterson seems to think I am at present a victim, to give him all the facts that he challenges me to unearth from medical literature.

Prior to so doing, however, I deem it wise to correct some statements made by Dr. Peterson regarding my personal work upon epileptics, and to call attention to some other paragraphs in his letter that might mislead the general reader, although it is difficult to treat them otherwise than as a jest.

In the first place, Dr. Peterson charges that I have alleged a cure of twenty per cent. of twenty-six cases of epilepsy treated by me through eye treatment alone, and that my records do not justify this statement.

I have ('tis true) reported in detail only twenty-six cases. Of these, twenty-five were reported some years ago, and one last April.

In the summary of the last article (to which I referred Dr. Peterson) I say that up to the date of that article twenty per cent. of my cases of epilepsy had apparently been cured.

Does Dr. Peterson think that only one case of epilepsy (the one reported last April) was all that I had seen in several years; or does he fail to discern the difference between a "recorded" case (in my record books) and a "reported" case? Such little oversights seem to be of no importance in Dr. Peterson's efforts to convict his opponent of "mental blindness."

In the second place, Dr. Peterson "quotes authorities" to sustain his weak position, but fails to mention that he wrote letters to physicians who had sent patients to me (as I suggested he might do) and received at least one report that the patient in question had been entirely free from epilepsy for three or more years.

Dr. Peterson knows, as well as I, that he might quote authorities for centuries back to cast discredit upon methods of treatment that happened either to be unknown to the authors cited, or concerning which the authors cited knew absolutely nothing personally, and whose opinions were therefore based upon second-hand information.

How many of the clinical cases of Dr. Peterson or those observed by others whom he mentions were ever subjected to eye treatment in the hands of any oculist with a large experience in the treatment of heterophoria?

In the third place, Dr. Peterson begins apparently to fear to meet the array of cases that will surely be brought sooner or later to his notice, when he says that he will exclude in his count of authentic and trustworthy cases all in which the existence of "genuine epilepsy" is not well established.

This is no new idea! The same move has been made before by other neurologists to defeat justice to this new method of treatment of functional neuroses, and with what results? Are not certain oculists who originally scoffed at heterophoria to-day operating frequently upon the eye muscles for nervous diseases in New York city? Is recognition (either tacit or in print) not steadily increasing among the oculists of this country and Europe?

Later on, I may conclude to publish some interesting letters received by me from oculists of prominence in various cities upon this point, as well as from some of the leading medical men of Europe, exhibiting the deepest interest in this new field of work.

I should like Dr. Peterson to put in print just what he intends to exclude as not "genuine" cases of epilepsy. Are all genuine cases to be those that did not get well, and is some other term applicable to those in which the patients recovered? Is this fine distinction to be hereafter exercised on all cases in Dr. Peterson's clinic and others, with proofs of the "genuine" type of every case, or is it to be reserved as a weapon to annihilate (with one sweep) all reported cases of restoration to health by eye treatment?

Would it not be sad to think of a judge on the bench giving out decisions in *ex-cathedra* fashion on questions of vital moment after he had thrown out or destroyed all the evidence that failed to establish his preconceived judgment? Is it not amusing to discuss, even for an instant, the possibility of evidence being so tampered with, suppressed, or distorted?

Finally, Dr. Peterson once more endeavors to escape the facts that he expects to meet later by offering the absolutely ridiculous explanation that in any cases where eye treatment has cured "genuine" epilepsy (if such an admission were possible) he must attribute success purely to suggestion—a sort of permanent mental hypnotism of the patient.

Even this explanation is not new! It was lately hashed up and dressed in attractive garb by Dr. Casey A. Wood, of Chicago (*New York Medical Journal*), and my letter in reply is to be found by Dr. Peterson in a later issue!

It is really hard for me to be serious in discussing so absurd an argument. The operation of a graduated tenotomy is absolutely painless; it is often performed by me upon children while they chat with me over their dolls or toys; it does not confine the patient to the bed or prevent any reasonable amusement or occupation more than a few hours; it is not looked forward to by my patients with any dread (as a rule); and it is purposely made light of by me, both prior to and after the operative step, in order to decrease alarm or apprehension.

In my reply to Dr. Casey A. Wood, I made use of about these words:

"A good spanking or a dose of castor oil has ten times the mental suggestion of a graduated tenotomy; yet who ever recorded a cure of epilepsy or other grave neurosis from such a method of treatment with the hope of causing mental suggestion?"

In closing, I would say to Dr. Peterson and others who are really anxious to gain information concerning my methods and results (for scientific ends) that I have nothing to conceal or to fear; and I should be happy at any time to aid them by all means in my power.

Those of us who are earnestly engaged in this new field of neurology and optics are, however, in this work to stay. I am sure that an earnest, painstaking, and con-

scientious investigation of heterophoria will repay all who closely follow the latest methods. Never before in the history of medical science has the investigation of the eye muscles been placed upon so accurate and scientific a basis. The practical results of this work in relieving suffering humanity are creating naturally an enthusiasm among those who are proficient in this field; but not so great, I trust, as to cause them to be "misled by the personal equation" or to affect their reasoning faculties.

AMBROSE L. RANNEY, M. D.

#### BALSAM OF PERU IN THE TREATMENT OF SCABIES.

SAGINAW, MICH., June 9, 1896.

To the Editor of the *New York Medical Journal*:

SIR: It is scarcely worth notice, I suppose, but Dr. Coggeshall, in the *Journal* for June 6th, intimates that I made a mistake when I stated that Waring, in his *Therapeutics*, referred to the use of balsam of Peru in the treatment of scabies. Possibly he has a different edition of Waring. Mine is the third American edition, of 1874, and on page 132, paragraph 371, he *does* state: "In scabies of children, Dr. Monti, of Vienna, has successfully employed frictions with this balsam," referring to balsam of Peru in the preceding paragraphs. I did not intend to say I had used it in scabies, but that it was not a new remedy in that disease. I have found it greatly relieve pruritus in eczema. I may say here that the *Half-yearly Abstract of the Medical Sciences*, vol. xlv, 1867, refers to the *New York Medical Journal* for February, 1867, as authority for the statement that Burchardt, of Berlin, had used the balsam of Peru "against itch with great success."

So far as I can find, Waring nowhere mentions the use of copaiba in scabies. I believe the doctor needs new glasses.

S. E. CAMPBELL, M. D.

#### THE ANTITOXINE TREATMENT OF DIPHTHERIA.

CHICAGO, July 6, 1896.

To the Editor of the *New York Medical Journal*:

SIR: Not so much in defense of antitoxine—which hardly needs any—as in common justice to its "manipulators" in this city, as your correspondent, Dr. Nolan, styles them in his letter published in last week's *Journal*, I ask your publication of the inclosed statement of the facts in the case he therein refers to.

F. W. REILLY, M. D.

[Copy.]

CHICAGO, July 6, 1896.

F. W. REILLY, M. D., Assistant Commissioner of Health.

"DEAR DOCTOR: Referring to the letter in the *New York Medical Journal* of July 4th by Dr. W. J. Nolan, of 285 Loomis Street, I find by the notes in my visiting list I was called on May 27th to that case by Dr. Bergeron, who had been called and, finding it was a severe case of diphtheria, referred the people to me, saying he would prefer not to treat diphtheria. On my arrival I found the case extremely severe, advanced beyond the fourth day, Klebs-Loeffler bacilli, also streptococci and staphylococci in abundance, and every evidence of septicæmia. I gave an unfavorable prognosis, but injected antitoxine with a forlorn hope, and also immunized all the other (five) children in the family.

"Then I was informed by the mother that Dr. Nolan had been called on Sunday, May 23d, made his second visit on Monday, and then abandoned the case. There-



upon they sent for Dr. Bergeron and by him the case was referred to me. The case was strictly a charity case and so known to be by Dr. Bergeron, and I was compelled to furnish medicine at my own expense. The child died as I predicted on my first visit. None of the children immunized contracted the disease. The mother, who was not immunized, contracted diphtheria, was treated with antitoxine, and promptly recovered.

"I did not see the case nor was antitoxine administered until May 27th, the second day after Dr. Nolan had abandoned it. The mother—'the defenseless widow'—had given him the last dollar she had in the house. She is eminently satisfied with what I did for her child, as are all the family, and unstinted in her condemnation of Dr. Nolan for his 'heartless neglect,' as she terms it.

"Respectfully submitted,  
"E. P. MURDOCK, M. D.,  
"Medical Inspector."

#### EXTRAGENITAL CHANCRE.

To the Editor of the New York Medical Journal:

SIR: In your issue of June 6th are reported five cases under the title of Extragenital Chancre.

I think all those who have had much experience with syphilis will see at once that only one of these cases was an initial lesion.

Case I, with a large indurated growth of the finger, could not have been a chancre, because the patient had deep ulcerations of the tonsils and pharynx and perforation of the hard palate, making it a case of tertiary syphilis.

Case II, with a large indurated sore of the index finger of the right hand, and at the same time an ulceration of the tonsils, is, again, a case of tertiary syphilis.

Case III is a plain case of secondary syphilis.

In Case IV there were a sore on the tip of the tongue, mucous patches, and some deep ulcerations. The sore on the tip of the tongue was certainly not a chancre, because the patient could not have had a deep ulceration and chancre at the same time. It was a case of secondary syphilis passing into the tertiary stage.

In Case V, the woman showed a red, glazed induration of the lower lip, of about the size of a small English walnut. I believe this woman had an initial lesion, and that she contracted it by kissing her husband.

I can not agree that the author saved the child from having syphilis by giving the mother hot bichloride douches. The child was born with syphilis, and it was a mistake not to allow the mother to nurse the child, and in this way control the disease in the child by giving the mother syphilitic treatment.

The intensity of the disease in the child will depend upon the time the mother was infected.

The child, unless treated for syphilis, will without doubt break out with the disease, although it may enjoy apparently good health for a long period.

Case VI was that of a married woman with a sore just above the right knee. Here, again, is a tertiary ulceration of the leg mistaken for an initial lesion. This patient had ulceration of the mouth, with intense headaches.

The cases of mine, reported in the *Journal* for May 23d by Dr. E. Harrison Griffin, were all verified by the roseola. If the same precaution had been taken with these cases, they would have all been thrown out except Case V.

J. CLARENCE SHARP, M. D.

## Proceedings of Societies.

### AMERICAN GYNÆCOLOGICAL SOCIETY.

*Twenty-first Annual Meeting, held in New York, on Tuesday, Wednesday, and Thursday, May 26, 27, and 28, 1897.*

The President, Dr. WILLIAM M. POLK, of New York, in the Chair.

*(Continued from column 101, page 700.)*

**The President's Address.**—The PRESIDENT, in his address, reviewed some of the important events that had transpired in connection with the development of gynecology during the twenty-one years of the society's existence. He said that shortly before the birth of the society the field of gynecology had been largely dominated by the cervix, and gynecological practice had appeared to consist chiefly in the use of the cylindrical speculum and the stick of nitrate of silver. In referring to the more important advances that had been made, he enlarged upon the results of Emmet's labors for the prevention and cure of fistula, upon the recent methods for inspecting the bladder and ureters, upon the surgical operations that had been devised for the relief of retrodisplacements of the uterus, and upon the investigations into "surgical fever," and closed his sketch by drawing a vivid picture of the awful ravages of puerperal fever in former days and of the doubt and dread that had pervaded the lying-in chamber.

**The Technics of Vaginal Hysterectomy.**—Dr. PAUL SÉGOND, of Paris, presented, in the French language, a communication on this subject, which was interpreted by Dr. Henroin. He said that he recognized laparotomy as a tried and valuable method of treating septic diseases of the abdominal cavity, and that vaginal hysterectomy was adapted only to a certain class of cases. If there was any doubt about suppurative pelvic disease being bilateral, abdominal section was preferable. There had been numerous modifications of vaginal hysterectomy, but still the operation remained essentially as it had been originally devised by Péan. All the operative procedures, he said, should be done under the guidance of the eye, and in rare instances, where no line of cleavage between the uterus and adjoining organs could be found, the operation must necessarily be incomplete. In his six hundred operations he had not met with a single vaginal hernia, and the vaginal operation not only furnished a complete cure in almost all instances, but contributed very materially to the comfort of the patient, and entirely avoided the abdominal scar. In these six hundred operations he had wounded the bladder six times. It was most liable to be wounded at the time of making the first incision, anterior to the cervix, or just as one was about to open the abdominal cavity. By pulling the cervix backward and forward, one could recognize the situation of the bladder, and by avoiding the use of lateral retractors this accident would be for the most part prevented. He preferred to use a short retractor, which was very gently held against the anterior surface of the uterus. In the cases in which the rectum had been injured, he had always found that healing had been prompt and complete. The most serious consequences followed the wounding of the ureter, which was an accident most prone to occur, either while dissecting back the bladder and anterior vaginal wall or later on, during the efforts to control the hemorrhage. In his cases he had wounded the ureter only twice. He attributed this comparative freedom from the accident to the use of his circular inci-

sion and the lateral incisions, to the avoidance of retractors, and to careful denudation anteriorly. To guard against hæmorrhage, he required his patients to remain in bed for two weeks after this operation, and unless there was a distinct indication for its removal, he allowed the gauze packing to remain unchanged for from five to eight days. He did not remove the forceps for forty-eight hours.

**The Relative Merits of Total or Partial Hysterectomy for Cancer of the Cervix by Ordinary Methods and Supravaginal Excision by the Galvano-cautery.**—Dr. JOHN BYRNE, of Brooklyn, read this paper. He expressed the conviction that the frequent publication of so-called successful hysterectomies, and rarely of the unsuccessful ones, had wrought almost incalculable evil, but the pendulum appeared to be already swinging toward the conservative equilibrium. In twelve hundred and seventy-three colpo-hysterectomies, done by thirty-eight surgeons, both here and abroad, the average primary mortality was 14.6 per cent. In the short space of three years there had been no fewer than a hundred and sixty-three vaginal hysterectomies for cancer in one institution, and at the end of three years only twenty-five per cent. of the patients were living. Twelve per cent. were reported to be still without recurrence. In forty cases that he had operated upon for cancer by supravaginal excision with the galvano-cautery knife, those that he had been able to follow, the average period of exemption from recurrence had been nine years, while in one apparently unpromising case the patient reported herself to be in perfect health at the end of nearly twenty-one years. Dr. Byrne alleged the following advantages for his method:

1. Exemption from traumatism of the parts supposed to be sound.
2. An almost total abolition of the primary mortality.
3. Prolonged immunity from recurrence.

Dr. R. STANSBURY SUTTON, of Pittsburgh, said that he was convinced from the histories of some of his own cases that cases which we occasionally believed to represent a very bad form of cancer were in fact not cases of cancer at all. For true cancer, he was of the opinion that it made but little difference whether the cautery or the ligature was used, for in this country, where we did not usually see cases of cancer until a late stage, recurrence would be the rule. Regarding the removal of fibroids, he had become so convinced of the advantages of the Pryor or Baer operation for large fibroids that he did not care to resort to morcellation through the vagina. In the case of small fibroids, he preferred at present to do an anterior colpotomy, enucleate the fibroid, and, if possible, return the uterus to the pelvic cavity.

Dr. J. E. JANVRIN, of New York, said that, according to his experience, in only about one fourth of the cases of cancer of the uterus did the disease begin in the cervix. He had recently published a paper giving his ultimate results in sixteen cases in which the cancer had begun in the cervix. In these cases he had operated from three years and four months to twelve years ago, and thirty-three and a third per cent. of them had been absolutely cured. His experience had been that when the disease returned in the cicatrix the amount of pain experienced was much less than from the primary disease.

Dr. W. H. WATHEN, of Louisville, said he did not think it was often that more than one retractor was needed at a time in performing vaginal hysterectomy. Where the disease was unilateral, he believed, the diseased tube and ovary could be removed through the vagina with less danger and mutilation than through the abdomen.

Dr. HOWARD A. KELLY, of Baltimore, said that the vaginal sectionists had abandoned the conservative field in the treatment of the appendages and of fibroids. It was not possible by the vaginal route to decide upon what structures could be saved with the same facility as by abdominal section. He also thought the vaginal field must be abandoned for carcinoma, because this disease could be more effectively combated through the abdomen. There was, however, one great advantage of the vaginal operation, and that was that, if the aseptic procedures were faulty, there was less danger to the patient than from an abdominal operation. He had found that morcellation greatly simplified the operation, and also that the careless handling of the retractors was apt to lead to injury of the ureters. Where the patient was exhausted by sepsis, if the pus could be readily evacuated through the vagina, this was the better route to select. In cases in which the uterus was adherent, he certainly would not undertake the vaginal operation.

Dr. MATTHEW D. MANN, of Buffalo, said that in selecting the route we should be guided by the variety of cancer present. Where the vaginal wall and the broad ligaments were not involved in the cancer, or where the disease was confined to the body of the uterus, and this organ was freely movable, the vaginal route was the better one, but these cases represented the minority. As these cases of malignant disease were usually not seen until late, an extensive dissection would ordinarily be required, and hence for these the abdominal route was better.

Dr. A. PALMER DUDLEY, of New York, in comparing the methods of Jacobs and Ségond, said that the healing by the former was slow, owing to the use of the cautery, and that for this reason he preferred Ségond's. In his opinion, when it became necessary, in cases of carcinoma of the uterus, to make the extensive dissections indicated by Dr. Kelly, it was better to refrain from operating altogether.

Dr. BACHE MCE. EMMET, of New York, said that he had found retractors very useful in vaginal hysterectomy. He presented a special clamp that he had devised for use in cases in which a good deal of the work had to be done by the sense of touch. These clamps were so constructed that by simply bringing together the distal ends of the blades they were locked.

Dr. FLORIAN KRUG, of New York, contrasted the present discussion, in which there had been no dissenting voice as to the propriety of removing the uterus in cases of bilateral suppurative disease, with the controversy which had occurred in this society over the same subject only two years ago.

Dr. FORD, of Utica, said that he had been impressed with the fact that in Ségond's original paper removal of the uterus had been recommended for the purpose of giving easier access to the diseased annexa. Even admitting the uterus to be a useless organ, it should not be condemned solely on this account, and he was glad to see that in this country there was a tendency to save it.

Dr. HENRY C. COE, of New York, referring to Dr. Byrne's paper, said that he had become a pessimist concerning the treatment of malignant disease. Very poor results were obtained in cancer of the breast, even by those of much skill and experience in this special field, and the discovery that even after the most extensive operations nodules having a structure suspiciously like that of carcinoma were found did not afford even the most ardent operator much encouragement. Some time ago Dr. E. C. Dudley had argued in favor of using



clamps in operations for malignant disease, on the ground that the resulting sloughing process served to destroy groups of cells beyond the incision made by the knife. If this argument was valid, then there was good reason to believe that the galvano-cautery might possess a value hitherto unappreciated.

Dr. STEPHEN C. GORDON, of Portland, Me., said that it was his practice to do an abdomino-vaginal operation in cases of cancer of the uterus, because the vaginal portion of the cervix could be readily removed through the vagina. The operation could then be completed through the abdomen, and the uterus drawn back through the vagina, thus avoiding the danger of infecting the tissues with the disease. As to the removal of fibroids, he still favored the abdominal operation, for, although he could see little enough by that route, he could see much more than by the vagina.

Dr. BAHR, of Philadelphia, said that if he could believe that the uterus was a useless organ when the appendages were extensively diseased, and also that it was not important to retain the cervix, he would resort to the vaginal operation.

Dr. J. M. BALDY, of Philadelphia, said that a very important objection to vaginal hysterectomy was that it produced a shortening of the vagina amounting to nearly an inch and a half.

(To be continued.)

### Book Notices.

*The Primary Factors of Organic Evolution.* By E. D. COPE, Ph. D., Professor of Zoology and Comparative Anatomy in the University of Pennsylvania. Chicago: The Open Court Publishing Company, 1896. Pp. xvi-547. [Price, \$2.]

THIS book is an accumulation of the results of earnest and painstaking investigation into the regions of biology and paleontology.

From the latter a large amount of evidence is drawn, thus making the work very valuable, especially in view of Professor Cope's wide knowledge in this department of science.

In comparison with most other works on evolution, this fact is at once to be remarked. As the author states, the rapid strides of paleontological research in this country have brought to light masses of facts which have a direct bearing on the subject.

A large share of the references are from American authors, and the writer naturally gives prominence to the views of those who, from the amount of material at their command, should be the better informed.

Professor Cope enrolls himself with the so-called Neo-Lamarckians, whose views are an elaboration of the principles laid down by Lamarck in the early part of the century. Their aim is to find a cause or reason for the variations which, inherited, finally produce new forms, rather than to regard all variations as accidental, "promiscuous, and multifarious," as Darwin does.

The book is divided into three parts: The nature of variation, the causes of variation, and the inheritance of variation.

Under Part I are chapters devoted to variation, phylogeny, parallelism, and catagenesis.

Under Part II are chapters on physiogenesis and nat-

ural selection, and a very strong and interesting chapter on kintogenesis, especially the parts treating of the manner of the evolution of various articulations and forms of teeth in vertebrates.

Part III comprises chapters on heredity, the energy of evolution, the function of consciousness, and the opinions of Neo-Lamarckians.

In the various chapters numerous proofs are brought forward to sustain the axioms advanced, and they are very well grouped and arranged.

The book, although extremely interesting to any one, is better adapted to the student than to the cursory reader. This in itself tends to show the advance of the science of evolution, which does not now so much rest upon a conglomeration of theories as upon a solid foundation of facts.

*Les Artérites. Leur rôle en pathologie.* Par A. BRault, médecin de l'Hôpital Tenon, etc. Paris: G. Masson, 1896. [*Encyclopédie scientifique des aide-mémoire.*]

THIS work is one of a large series of short treatises on various scientific subjects now being published in Paris, and intended, when complete, to form an encyclopædia of the various sciences.

The present volume gives an interesting and fairly complete presentation of the subject of diseases of the arteries. The conversational and argumentative style adopted by the writer might easily lead one to underestimate the real scientific character of the work. The author first describes at length the gross and microscopical characters of lesions of the arteries, and it is to be noted that some points are here properly emphasized which are not usually detailed in text-books of pathology. The chapter on pathogenesis is most valuable and interesting. Here the author reviews three theories advanced in explanation of the "plaque jaune." The first attributes its formation to a granular degeneration of the superficial layers of the intima; the second, to a new formation of connective tissue in the intima; the third, to obliteration of the vasa vasorum which ramify in the adventitia. After an interesting and convincing argument, the writer accepts the second as the correct theory. In regard to the exact point of origin of chronic arteritis, this observer states that he has never seen isolated periarteritis or mesarteritis, but that lesions limited to the intima are of common occurrence. He finds no gross or microscopical differences in the lesions produced by syphilis and those arising in the arteries from other causes.

In the etiology of arteritis chief importance is given to acute articular rheumatism, but the arteritis of typhoid fever is discussed at some length.

Syphilis, tuberculosis, malarial disease, small-pox, saturnism, alcoholism, and gout are separately reviewed in their relation to the arteries, and finally the experimental production of endarteritis is described from the work of several French investigators. The author's own experiments indicate that infection, to be followed by endarteritis, should be preceded by traumatism of the wall of the vessel or a disturbance of its nutrition. Thoma's theory of the origin of arteritis is not mentioned.

A short concluding chapter relates to symptomatology.

*Water Supply.* Considered Principally from a Sanitary Standpoint. By WILLIAM P. MASON, Professor of Chemistry, Rensselaer Polytechnic Institute, etc.



First Edition. First Thousand. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1896. Pp. vii-504.

It has given us much pleasure to read Professor Mason's work, and we have derived much benefit from the reading. The book is one which may well be commended, not merely to the professional but also to the lay reader, for it is free, for the most part, from exclusive technicality and therefore may be comprehended and enjoyed by all who are interested in the subject. As the author very frankly says, the work is largely a compilation and had of necessity to be so, but it contains, too, much that is original, the union of the two elements providing us with a work on water supply which we think it would be difficult to excel.

The introductory chapter is historical and is satisfactorily brief. The relations of drinking water to disease consume Chapter II, and they are well and forcibly presented. Artificial purification of water occupies the third chapter, and its natural purification the fourth. Chapters on rain, ice, and snow, river and stream water, stored water, ground water, and deep-seated water follow. Chapters X and XI deal with the chemical and the bacteriological examinations of water respectively. Naturally, technicality pervades them, for it is not avoidable. The chapter on bacteriological examination is disappointing and to the physician at least can scarcely convey that sufficiency of information which the subject demands. In Chapter XII the quantity of per-capita daily supply is presented and Chapter XIII contains most important matter upon the action of water upon metals. Several interesting appendices conclude the work.

The book is made the more valuable by the able manner in which it is written. To be sure, the text is often interrupted by statistical and analytical tabulations, but they are required; moreover, they are well introduced and the easy style of the writer is sufficient to atone for the interruption. Illustrations are frequent throughout the book, and as a rule they are good.

*Lectures on Pharmacology for Practitioners and Students.* By Dr. C. BINZ, Director of the Pharmacological Institute in the University of Bonn. Translated from the Second German Edition by ARTHUR C. LATHAM, M. A., M. B. Oxon., M. A. Cantab., Radcliffe Traveling Fellow in the University of Oxford. Volume I. London: The New Sydenham Society, 1895. Pp. vi-389.

A CRITIC of Professor Binz's work in its earlier edition has said that it shows "that pharmacology is more interesting than many physicians and students imagine." The remark is most apt, and nothing has more forcibly impressed us in the reading than the contrast between this work and the typical *materia medica* of the English or the American writer. Tabulation, classification, division, and subdivision seem to exhaust the Anglo-Saxon ability in this field, and the substance or subject-matter wherewith the framework is provided is marasmic and cachectic. We do not in the least underestimate the importance of these works; for students they are suitable and essential, because the student must have his *materia medica* condensed and classified with care and even with minuteness if he is to acquire the knowledge of a subject so extensive. It is destructive to all pleasure in reading, however, this overclassification and tabulation, and for the practitioner it certainly is not essential. It

is in this uninterruptedness that Binz's work excels; from beginning to end, there is the smoothest and most agreeable continuity, and the conversational tone in which the author writes (the work is essentially the lectures delivered to his classes) makes the result pleasing in the highest degree. In fact, one reads this work not only with satisfaction and benefit but also with pleasure and entertainment. It would be well had more pharmacological writers this power to interest while they instruct, for the subject is one which is very badly written of. The subject matter calls for little comment, because it is that which the better works on pharmacology contain; it is the manner in which the facts are presented that is so unusual and so admirable.

*Medical Jurisprudence, Forensic Medicine, and Toxicology.* By R. A. WITTHAUS, A. M., M. D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., and TRACY C. BECKER, A. B., LL. B., Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the Collaboration of AUGUST BECKER, Esq.; CHARLES A. BOSTON, Esq.; the Hon. GOODWIN BROWN; W. N. BULLARD, M. D.; G. C. CAMERON, M. D.; J. CLIFTON EDGAR, M. D.; G. J. EDWARDS, Esq.; E. D. FISHER, M. D.; J. C. JOHNSON, M. D.; D. S. LAMB, M. D.; H. P. LOOMIS, M. D.; DAVID MURRAY, Esq.; W. B. OUTTEN, M. D.; ROSEWELL PARK, M. D.; W. T. PARKER, M. D.; J. PARMENTER, M. D.; the Hon. WILLIAM A. POSTE; IRVING C. ROSSE, M. D.; E. V. STODDARD, M. D.; EDWARD S. WOOD, M. D.; GEORGE WOOLSEY, M. D.; and J. H. WOODWARD, M. D. Volume III. New York: William Wood & Co., 1896. Pp. 697.

THE first article in the present volume is on the medico-legal relations of vision and audition and of injuries to the eye and ear, and is written by Dr. J. H. Woodward. The author reviews the methods of determining the degree of acuteness of vision, the several means of detecting simulated blindness, injuries of the orbit, the eyelids, and the eyeball, foreign bodies in the eyes, and sympathetic diseases of the eyes. Injuries of the ear are comprehensively reviewed, and the section affords satisfactory information in regard to ocular and aural troubles that may be of medico-legal interest.

Mr. David Murray and Mr. Guy J. Edwards, of the New York bar, are the joint authors of the section on the Medico-legal Aspect of Insurance, and they have successfully confined themselves to a consideration of those instances in which the practitioners of law and of medicine must co-operate to properly elucidate the questions involved in determining the nature and effect of the contract between the insurer and the insured.

Dr. Edward D. Fisher is the author of the section on the Medical Aspects of Insanity in its Relations to Medical Jurisprudence. In an able preface this author places stress on the necessity of regarding the mind as a whole, and not as if it consisted of independent faculties, and of the necessity of studying each case by itself. The mechanism of thought is briefly reviewed, insanity is defined, and its etiology, symptoms, and pathology are succinctly described. Krafft-Ebing's classification of the forms of insanity is used with some modifications, and the special forms of insanity are described with appropriate detail. The subject has been handled with a great deal of judgment, and the section is likely to meet the wants of both the lawyer and the physician.

One of the editors, Mr. Tracy C. Becker, is the author of the section on Mental Unsoundness in its Legal Relations, in which there is a comprehensive *résumé* of this important subject.

Mr. Goodwin Brown, in the section on the Care and Custody of Incompetent Persons and their Estates, gives a general view of the subject and a very useful and important digest of the statutes of all the States.

This volume sustains the good impression created by the preceding volumes, and the work is a safe guide for the student of this important branch of medicine.

*Transactions of the American Orthopædic Association.*  
Ninth Session, held in Chicago, September 17, 18, and 19, 1895. Volume VIII.

Upon the fly leaf of this book is the following: "The association does not officially indorse the opinions presented in the different papers published in the *Transactions*." It is not too high praise to say that the association could with pride indorse the greater number of the opinions therein expressed. Those papers devoted to the affections of the feet are, without exception, excellent. Dr. Whitman's article, presenting the mechanics of the human foot as a familiar machine, is the best treatise on the subject we have seen. His treatment of flat-foot, as herein expressed, is purely conservative, and the over-correction or twisting of the foot into the club-foot position is insisted on. The after-treatment—viz., by manipulation, massage, and proper exercises—is made, as he says, the most essential part. No less excellent, though less exhaustive, is the paper on Affections of the Arch of the Foot, by Dr. Lovett and Dr. Dane. A thing which is often not clearly understood, or else slightly—the difference between the so-called "flat-foot" and the foot with true pronation, with or without spasm and deformities—is here brought into prominence. The difference in treatment of the two essentially different affections is well expressed in both of the above-mentioned articles. We doubt if such remarkable results as are reported in Tendon Transplantation, by Dr. Goldthwait, will be often met with, as the operation becomes more popular. It seems remarkable that, as in Case I, the peronei muscles, longus and brevis, which are essentially not extensor muscles of the foot, should so completely fulfill that function as is shown in the photograph taken after the operation. Whether or no the patient had the power to raise himself and to support the weight of the body on his toes is not stated. The fact also that such a good result followed in a suppurating wound is unusual. In another case, where all the muscles of the foot were paralyzed except the three peronei, after suturing of the peroneus tertius and the extensor communis digitorum to the tendon of the paralyzed fibularis anticus, these comparatively weak muscles were made to perform the functions of this strong one. Here also we find "entire correction of the valgus and a very fair amount of flexion and extension."

In two cases of spasmodic wryneck, Dr. Halsted Myers has clearly given a fair trial to the use of coniun and atropine in large doses, in conjunction with the usual orthopædic appliances. In both was there an improvement in the spasm and in the movements of the head. To quote the author's words, "We can not ascribe the change to the coniun or to the atropine, since the effect produced by the latter seemed temporary in the doses in which it was possible to give it. The improve-

ment, therefore, must have been due to the direct or indirect action of the braces. They did not increase the muscular spasm, as has been claimed; on the contrary, they relieved the patients, I feel sure, from a great deal of unconscious nervous strain."

Even the most radical surgeons, we think, will hardly agree to the statement, in Dr. Plimpton's article on Excision of the Knee, that a few weeks or months are sufficient to determine whether the mechanical treatment is to be continued or excision resorted to. Here, as elsewhere in this article, the distinction between tuberculous joint disease in children and in adults is not given its proper weight. Again, we meet with the same grouping of these two essentially distinct classes of cases in the statement "all abscesses of joints, whether in children or adults, should be thoroughly drained." Sixty-five excisions of the knee joint without a death show certainly gratifying results. Ten minutes for the entire operation remains, we believe, "the record."

*Medical and Surgical Report of the Presbyterian Hospital in the City of New York.* Volume I. January, 1896.

We have so often protested against the senseless locking-up of valuable information in hospital records, and so often urged the publication of medical reports by our hospitals, as is done by English hospitals, that the action of the Presbyterian Hospital, as expressed in the preface of this volume, can not but give us satisfaction. No doubt an example so excellent will be followed by other hospitals, and when hospital boards in general have reached the magnanimity of the Presbyterian Hospital board of managers we shall have yearly a means of medical improvement and education which will be an aid not merely to the favored few but to all.

The report contains a multitude of things both interesting and important which have been furnished by the records of the Presbyterian Hospital and contributed by various of its medical officers. So much of excellence, indeed, is herein presented that one is almost at a loss to cite those things which are noteworthy in particular. The articles which have given us special pleasure, however, are those upon caisson disease, tetany, tumors of the kidney, cancer of the cæcum in a patient, aged twenty-four, with symptoms resembling those of acute appendicitis, and subdiaphragmatic abscess simulating empyema. A tabulated report of the medical division of the hospital is followed by one of the surgical division, and this by a list of operations performed. The volume concludes with a chapter devoted to the preparation of dressings and surgical appliances as practised in the operating pavilion.

We heartily congratulate the hospital upon its report and the editors and contributors upon the excellence of their work. We congratulate the profession, too, that hereafter one of our hospitals at least will provide us with a report which will give us medical knowledge rather than statistics of sex, race, religious belief, color, and board-paying ability alone. In conclusion, we desire to quote from the preface of this report, that the sentiments therein expressed may be the more widely known. "The management of the Presbyterian Hospital issues this, its first *Medical and Surgical Report*, believing that a permanent record should be made of the valuable and interesting scientific material that is found in the hospital. The first duty of a hospital is to care for the sick. Its next duty is to advance in every possible way the knowl-



edge of the nature and treatment of disease. It is proposed that this shall be the first of a series of similar reports to be published annually."

*How to Feed Children.* A Manual for Mothers, Nurses, and Physicians. By LOUISE E. HOGAN. Philadelphia: J. B. Lippincott Company, 1896. Pp. 5 to 236. [Price, \$1.]

THE scope and object of this little book are well presented in its preface, where we read "It is also hoped that the book will meet the requirements of practitioners, who rarely have the time to direct in detail the management of children's diet. It is not the intention of the author to advise where a physician is needed, but rather to suggest to the mother or nurse when he should be sent for, and how he may be aided in his efforts by the exercise of intelligence and judgment in the selection and preparation of foods indicated for various ages and varying conditions of illness and convalescence."

The writer adheres well to her plan as outlined, and the excellence of the work is largely due to that fact. Clearness and simplicity mark the work throughout and render it an agreeable contrast to those productions whose subject is the same and whose intent perhaps is good, but whose result is to confuse and to alarm, because they seek to teach the mother things which she is not competent to understand. In no place does the writer suggest independence of the physician; on the contrary, she constantly refrains from elaborating her teaching, lest she encroach upon what is more wisely referred to him, and in so doing work a harm. Her teaching is complementary of that of the physician, and nobody who reads the book can fail to observe how well her object is attained. That the work is a compilation is true, but it is compiled from sources of great excellence and the selection is well made. We wish in particular to commend the dietaries and menus, which will certainly be of assistance to those who have the care of children. The recipes, too, are excellent. We feel sure that the book will be of much service to those for whose aid it was written, for it is both ample and comprehensible.

#### BOOKS, ETC., RECEIVED.

*Practical Points in Nursing.* For Nurses in Private Practice. With an Appendix containing Rules for Feeding the Sick; Recipes for Invalid Foods and Beverages; Weights and Measures; Dose List; and a Full Glossary of Medical Terms and Nursing Treatment. By Emily A. M. Stoney, Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Illustrated with Seventy-three Engravings in the Text and Nine Colored and Half-tone Plates. Philadelphia: W. B. Saunders, 1896. Pp. 12 to 456. [Price, \$1.75.]

*A Manual of Obstetrics.* By W. A. Newman Dorland, A. M., M. D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, etc. With One Hundred and Sixty-three Illustrations in the Text and Six Full-page Plates. Philadelphia: W. B. Saunders, 1896. Pp. 7 to 760. [Price, \$2.50.]

*Clinical Diagnosis.* A Practical Handbook of Chemical and Microscopical Methods. By W. G. Aitchison Robertson, M. D., D. Sc., F. R. C. P. E., F. R. S. E. London: The Scientific Press, Limited, 1896. Pp. 366. [Price, 6s.]

*Familiar Trees and their Leaves.* Described and Illustrated by F. Schuyler Mathews, Author of *Familiar*

*Flowers of Field and Garden*, etc. With over Two Hundred Drawings by the Author, and an Introduction by Professor L. H. Bailey, of Cornell University. New York: D. Appleton & Co., 1896. Pp. x-1 to 318. [Price, \$1.75.]

*Maladies des voies urinaires. Séméiologie.* Par P. Bazy, chirurgien de l'Hôpital Tenon, etc. Paris: Masson et Cie., 1896. Pp. 5 to 212. [*Encyclopédie scientifique des aide-mémoire.*]

*L'Ergotisme. Ignis sacer. Ignis sancti Antonii.* Par le Dr. Edvard Ehlers, de Copenhague. Paris: Masson et Cie., 1896. Pp. 7 to 167. [*Encyclopédie scientifique des aide-mémoire.*]

#### Miscellany.

**The Sting of Bees, Wasps, and Hornets.**—The *Indian Lancet* for June 1st contains an interesting article on this subject by Surgeon-Major R. E. Wrafter, of the Bengal Medical Service, of which the following is an abstract:

The stings of bees, wasps, and hornets are the result of punctured and at the same time poisoned wounds, not made by the insect to obtain food, but in anger and for its own defense. Bees are not always on the alert to use their stings without reason, nor are they in the habit of attacking in concert. As a general rule, they sting only when they are irritated, hurt, or protecting their stores. Some stocks will be found much less excitable than others, the former being often those which are near a road or pathway; they also differ in excitability according to the season. During the rainy season in the plains the bees appear to be less active and less prone to sting than during the hot summer months; during the winter, also, when the temperature sinks to zero, they are inactive.

Into these wounds, which are made with a sharp, hollow dart at the extremity of the body, poison, which is secreted in twisted tubes and poured into a little bag, specially formed as a reservoir, is thrown by the sting dart which protrudes from between a sheath formed by two side plates at the end of the insect's body. The sting of a bee is barbed at the end, and is, consequently, always left in the wound; that of a wasp is pointed only, so that they can sting more than once, which a bee can not do. The agonizing pain which follows the sting of a bee, wasp, or hornet, more especially that of the latter, is probably, for the time, as great as any to which we are liable. The throbbing is intense, and if the skin is thin and loosely connected with the parts beneath, a swelling quickly rises, the skin becomes tight, shiny, and almost transparent, as if air or water (œdema) had been forced beneath it. This swelling comes on very rapidly and spreads very quickly, so that a sting on the finger may cause the whole hand to swell, and the swelling may even extend along the arm; if the eyelid is stung, the eye is quickly closed, or, if the lip, it becomes twice or thrice its usual size. Not infrequently, if the insect has been irritated, it stings with such good will that it leaves a great part, if not the whole, of its stinging organ sticking like a dart in the wound, and though it escapes, it thereby destroys itself. The bee on inserting its sting can not withdraw it excepting by gyrating round to unscrew it, hence the sting is usually left in the flesh and the poison bag is torn out of



the bee and left behind. The hornet's sting is the most severe, and the bee's the least. The wasp, an insect allied to the hornet, is capable of stinging severely also. To be stung by a bee is admittedly a painful accident, but if a person is stung by many bees, he suffers severely, and there are instances on record in which death has resulted from multiple injuries of this kind. No very careful investigation of these cases appears ever to have been made, and the circumstances have generally been such that even a skilled scientific observer would have found it difficult to note the phenomena accurately, but it would seem that so large a dose of insect poison acts very much like snake-venom, and that the main cause of death is shock to the nervous system. The immediate dangers from these injuries are shock and septicæmia, the remote dangers are erysipelas, phlebitis, and pyæmia. The venom of the bee, according to Fontana, bears a close resemblance to that of the viper. It has been observed that the pain of the stings of venomous insects like the bee depends less upon the introduction of the sting into the part than upon that of the venomous fluid.

Professor Dumeril's experiments tend to prove that, when the little poison bag, situated at the base of the sting, has been cut off, a wound with the sting produces no pain. The poison flows from the vesicle through the sting at the instant when this passes into the flesh. The active principle of the venomous fluid is said to be formic acid. When applied to mucous surfaces, even to the conjunctiva, it causes no disagreeable sensation, but when it is introduced into the skin by means of a hypodermic needle it immediately excites very acute pain.

The treatment of all these cases is, in its general principles, the same; local irritation is to be soothed, and if constitutional symptoms occur, they are to be combated by appropriate remedial measures. One or two stings from these insects are not usually considered of serious importance, but when, as sometimes happens, a swarm of wasps or bees attack a person, the number of stings inflicted may induce severe nervous depression, vomiting, and local pain. Or in delicate persons, or children, several stings may cause serious constitutional disturbance. Under such circumstances a stimulant will probably be first required, after which the sting or stings should be removed with a fine-pointed forceps, or, if they are too deep to be laid hold of, the hollow tube of a small key may be placed over the injured part, so that the puncture shall be in the middle, and by pressing it firmly down the skin be caused to rise in the hollow, when the sting will probably start out, or a watery fluid will escape, carrying with it some of the venom. This precaution will prevent the irritating poison from spreading. If a lens is at hand, it will be well to examine each wound, when perhaps the sting may be seen, and it may be extracted with the forceps. Then local applications may be applied.

As the poison is mostly of an acid nature, the application of a little alkali, such as ammonia water, to the injured part, will produce immediate relief. Sodium bicarbonate dissolved in a little water, or liquor potassæ will answer very well, and the application of sweet oil or glycerin, the juice of a plantain leaf, or the pulp of a raw onion has long held a prominent place in domestic materia medica. The pain of these venomous stings is often greatly relieved by the constant application of a piece of linen moistened with pure vinegar or tincture of calendula. The oil of lobelia is said to give prompt relief. A solution of lead acetate is effectual, also dilute carbolic acid. A poultice of powdered ipecac is largely

employed in Australia in cases of venomous stings. Of all these topical remedies alkaline preparations (ammonia or soda) certainly appear to be the most serviceable. The popular remedy of the "blue bag" (which is used in washing) moistened with water is probably useful for this reason. Alkalies seem to neutralize the poison. Should there be much swelling or inflammation, foment the part with hot water.

When the mouth or throat is the part stung, serious symptoms may manifest themselves in œdema and swelling which impedes respiration. When this happens, warm flannels should be applied to the neck, and subsequently a warm poultice of linseed meal, frequently renewed, generally affords relief.

**The Preparations of Strophanthus.**—The July number of the *American Journal of Pharmacy* contains a report of the research committee on pharmacodynamics in which Dr. Horatio C. Wood and Dr. William S. Carter state that the United States Pharmacopœia of 1890 recognizes only one preparation of this important drug—namely, the tincture. It is, however, they think, desirable to give strophanthus with other drugs in pill form, and the object of the research committee was to test the activity of the best commercial strophanthin and also of an extract. In order to determine whether the extract would be an effective preparation, they undertook a series of experiments with the drug. The extract was made by Dr. Charles Rice. A detailed account of the experiments is given, in each of which a solution of the extract, in the proportion of fifteen grains to a thousand cubic centimetres of water, was injected into the jugular vein of dogs.

The authors state that an examination of these experiments will show that the extract of strophanthus is an active preparation. The fact of the great percentage of rise in the last experiment, when the spinal cord had been previously cut and the vasomotor system paralyzed, is, they think, very interesting as an evidence of the little action which this drug has upon the vasomotor centres, as compared with what it has upon the heart and vessel walls. A comparison of these experiments will also show the great difficulty there is in testing drugs by comparative experiments upon the lower animals, the amount of rise in individual cases produced by the injection being entirely out of proportion to the relation between the dose given and the weight of the animal.

In the series of experiments with commercial strophanthin, the solution used was made by dissolving fifteen grains of the drug in a hundred cubic centimetres of water, and it was injected directly into the jugular vein. The results of these experiments are, the authors think, sufficient to show that the commercial strophanthin, as put upon the market by manufacturers of the first class, is an extremely active substance.

As long ago as 1888, Rothziegel and Koralzowski reported the results of the use of strophanthin in forty-four cases of disease. They state that the influence of very small doses, 0.0002 to 0.0003 gramme, is distinctly perceptible in an increase of the force of the pulse in from five to ten minutes; but that usually in cardiac cases the disappearance of the irregularity of the heart's action was not perceived until the second or third day of treatment; that when there was dyspœnia from cardiac disease, the difficulty in breathing disappeared very rapidly. No local irritation was, in their experience, produced by the hypodermic injection of as much as five decimilli-

grammes of the strophanthin. They ordinarily gave from one to three milligrammes in the twenty-four hours; in one case they gave five milligrammes for eight days, without any bad results. In two cases, however, the daily use of three milligrammes for two weeks caused reduction of the pulse-rate to forty-eight a minute, without any other accompanying symptoms. They reached the conclusion that the strophanthin was a good substitute for the tincture of strophanthus.

Dr. Wood and Dr. Carter state that the records of their experiments show that the activity of the strophanthin itself was much more marked in raising the arterial pressure than that of the extract, so that confirmation is afforded of the conclusion of Rothziegel and Koralewski—that strophanthin is a superior preparation of the drug.

They believe, therefore, that the *Pharmacopœia* should recognize the active principle of strophanthus, and give appropriate tests for its purity.

**The Northern Tri-State Medical Association.**—At the regular annual meeting which is to be held in Angola, Ind., on July 21st, the following papers will be read: The Management of Vesicalculus, by Dr. Frederick J. Hodges, of Anderson, Ind.; The Cause and Treatment of Color Blindness, by Dr. F. C. Mayson, of Hillsdale, Mich.; Purpura Hæmorrhagica, by Dr. Frank M. Gier, of Hillsdale, Mich.; Modern Brain Operations, by Dr. Allen de Vilbiss, of Toledo; Salicylate of Sodium in Septic Conditions, by Dr. H. O. Pantzer, of Indianapolis; Some Considerations on the Treatment of Acute Otitis Media, by Dr. A. E. Bulson, of Fort Wayne, Ind.; Embryonic Miscarriage, by Dr. J. R. Dodge, of Hudson, Mich.; Asepsis and Antisepsis: Which, or Both? by Dr. J. B. Greene, of Mishawaka, Ind.; Aseptic Technics in Pelvic and Abdominal Operations Outside of Hospitals, by Dr. C. N. Smith, of Toledo; Conservative Surgery in Tuberculosis of the Testicle, by Dr. J. E. Murphy, of Chicago; The Differential Diagnosis of Insanity, by Dr. C. B. Burr, of Flint, Mich.; Diffuse Cellulitis of the Hand and Forearm, by Dr. W. W. Brand, of Toledo; A Case of Brain Tumor, with an Exhibition of Specimens, by Dr. G. W. McCaskey, of Fort Wayne, Ind.; Obstruction of the Bowels, by Dr. Hal C. Wyman, of Detroit; The Diagnosis of Typhoid Fever, by Dr. W. C. Chapman, of Toledo; Growths of the Rectum, with a Report of Cases, by Dr. H. O. Walker, of Detroit; and The Need of Abdominal Section as an Aid to the General Practitioner in the Diagnosis of Obscure Abdominal Troubles, by Dr. J. H. Carstens, of Detroit.

**The Injection of Saline Fluid into the Axillary Cellular Tissue in Cases of Severe Hæmorrhage.**—The *Lancet* for June 27th contains an account of a case which came under Mr. Arthur Dodd's observation in which he made use of this method of treatment. The author was sent for to attend a multipara in whom excessive hæmorrhage had taken place during the preceding two hours without, apparently, any progress having been made in the labor. He found the patient had lost an enormous quantity of blood and was in a dangerous condition, being blanched and pulseless, and the pains, which had been going on regularly for several hours previously, had entirely left her. Upon examination he found the os only partially dilated and the membranes protruding, but no presentation detectable. He ruptured the membranes, and a large quantity of liquor amni escaped, and he found that the cause of the hæmorrhage was right partial placenta prævia. The patient was in an exceed-

ingly critical condition; there was vomiting, a cold, clammy perspiration, and sighing respirations; the bowels acted involuntarily, and she was pulseless, semiconscious, and apparently rapidly sinking. Two subcutaneous injections of ether were given without the slightest improvement. Transfusion was then performed, about a pint of liquid being used, although, says Mr. Dodd, the case was considered hopeless.

However, after a very brief interval there were indications of slight improvement and a very feeble pulse was detectable at the radials. During the next two hours small quantities of warm milk and brandy were given at frequent intervals. After that time there were decided symptoms of rallying and benefit from the transfusion, and the pains returned. By examination a vertex presentation could be made out and one one-hundredth of a grain of ergotine was injected and delivery accomplished with the forceps.

It may be interesting to note, says the author, that the child, a girl, was stillborn and very large, weighing eight pounds and three quarters and measuring twenty-one inches and a half in length. It was in a state of well-marked rigor mortis, the stiffness of the limbs and body adding considerably to the difficulty of completing delivery, which was accomplished at 12.45 A.M. The movements of the child had been last felt at 6 P.M. The placenta was easily removed, and the position of the part whence the hæmorrhage occurred found well marked on its border. The patient made an uninterrupted recovery, assisted by taking iron in the form of Bland's pills (bi-palatinoids) for several weeks.

The results of the transfusion were rapid absorption of the saline fluid (hardly any swelling remaining at the end of two hours) and decided and rapid improvement of the urgent symptoms, thus enabling the patient to take minute quantities of nourishment; and its advantages are the quick, ready, and easy application of the method, which could be managed at any time single-handed.

The credit of this method of treatment, says Mr. Dodd, is due to Mr. Thomas H. Morse, of Norwich, and it was owing to his suggestions some time ago that he became aware of it. The instrument used is a very slight modification of Mr. Arbuthnot Lane's transfusion apparatus, made by Messrs. Down Brothers, the only difference being that a sharp-pointed needle of a little stouter make is required instead of the blunt one used for introduction into a vein, and the ordinary saline solution is used—i. e., a teaspoonful of common salt to the pint of boiled water cooled down to the proper temperature (100° F.). Having fitted the needle, tube, and syringe together, fill the latter with the solution, then force the steel point of the needle through the skin of the axilla deep enough to move freely into the cellular tissue, and slowly and gently force the fluid into the cellular tissue. Refill the syringe and proceed again until a pint or more has been used.

**The Laws Governing Medical Practice in Pennsylvania.**—The July number of the *University Medical Magazine* contains an article on this subject in which the following synopsis of the law of 1893 is given by Dr. W. D. Hamaker, of Meadville, Pa., who states that there is a lack of knowledge among professional men in regard to this law:

The law of 1893 has been in force since June, 1894, and has for its main object the examination of all who wish to begin the practice of medicine and surgery in Pennsylvania.



This law establishes a medical council, composed of the lieutenant governor, the attorney general, the secretary of internal affairs, the superintendent of public instruction, the president of the State board of health, and the presidents of the three State boards of medical examiners.

The council issues all licenses to practise, and all candidates for examination and license write to the secretary of the council at Harrisburg, presenting their credentials, and receive permission from him to appear before one of the State boards of examiners.

The applicant must present a written application for license, inclosing a fee of twenty-five dollars, together with satisfactory proof that he is over twenty-one years old, is of good moral character, has obtained a competent common school education, has a diploma from a legally incorporated medical college, and has studied medicine for four years, including three regular courses of lectures in different years in a medical college.

The council then issues an order for the applicant to appear before the examining board which he may elect. If the applicant fails to pass, he can appear at any future examination, and for his second examination does not pay an additional fee if he takes it within two years. He may undergo an examination every six months if he wishes.

Physicians licensed by boards of other States are licensed in Pennsylvania, on filing their licenses, duly certified, together with proper affidavits showing the standards of the other States to be equal to that of Pennsylvania.

When the applicant receives his order from the medical council he appears before one of the three State examining boards at the June or the December meeting. The three examining boards are appointed by the governor from the certified lists of members of the Medical Society of the State of Pennsylvania, the Homeopathic State Society, and the Eclectic State Society. Each board consists of seven members, and each member serves for three years, and must be a registered physician in good standing, and shall have practised at least ten years.

Said boards are authorized to take testimony in all matters within their jurisdiction, and the presiding officers of the boards or of any committees may issue subpoenas and administer oaths to witnesses.

Two or more examinations may be held each year (time and place determined by the board). The examinations are in anatomy, physiology, hygiene, chemistry, surgery, obstetrics, pathology, diagnosis, therapeutics, practice of medicine, and materia medica; the questions in therapeutics, practice, and materia medica shall be in harmony with the teachings of the candidate's school of practice. The examinations are in writing. The papers, after having been examined and marked by the boards, are placed on file at Harrisburg for five years, subject to public inspection.

After having received a license to practise the candidate shall exhibit the license to the prothonotary of the county in which he or she desires to practise, whereupon he or she, upon the payment of one dollar, shall be entitled to be registered. A violation of any of the provisions of this act shall be punished by a fine of not more than five hundred dollars for each offense.

Medical officers of the army and navy, marine hospital, and railroad relief departments, internes of hospitals, dentists, druggists, and instrument-makers are exempted.

Physicians of other States can come into the State in consultation with Pennsylvania physicians, and physicians just across the line in other States whose practice extends over into Pennsylvania, can attend their patients, but must not have an office or place to meet patients in this State.

Practitioners duly registered before March 1, 1894, shall not be interfered with, and one such registry shall be sufficient warrant to practise medicine and surgery in any county in this commonwealth.

The law of 1881 was practically repealed by the law of 1893, but part of the law of 1877 is still in force, according to the opinion of Attorney-General McCormick, and according to the decision of the Supreme Court in the case carried up from Bradford County in 1892, in which the court held that the law of 1881 did not entirely repeal the law of 1877. It is not hard to tell what the decision of the court would be if a similar case were carried up under the law of 1893, as this law does not repeal the law of 1877 any more than the law of 1881 did. The law of 1877 relates in part to itinerant or transient physicians, and requires that any physician (otherwise legally qualified) who opens a transient office within the commonwealth or by hand-bill or other form of written or printed advertisement, assigning such transient office or other place to persons seeking medical or surgical advice, or prescribing or itinerating from place to place or from house to house, and proposing to cure any person sick or afflicted by the use of medicine, means, or agency whatsoever, for valuable consideration, shall take out a license from the clerk of courts of the county in which he wishes to practise, for one year, for which he shall pay a license fee of fifty dollars to the county treasurer and a registration fee of five dollars to the clerk of courts. The fine for violation of this law is from two hundred to four hundred dollars.

This law has excited some interest lately, from the fact that a number of physicians (itinerants), who were registered in some county under the act of 1881, have maintained the right to practise as itinerants under section 15 of the law of 1893, which says that one such registry (i. e., under the law of 1881) shall be sufficient warrant to practise medicine and surgery in any county in this commonwealth.

It is clearly established, then, that registration under act of 1881 ceased with the adoption of the law of 1893; that a licensee under the act of 1893 must register in every county in which he may practise; that the physician who registered under act of 1881 is not required to register in every county in which he may practise, and that in addition to being registered under act of 1881 or 1893, a sojourner or itinerant practitioner must comply with the law of 1877. Under the law of 1877 it is not allowable for a physician to open a temporary or transient office even in his own county without taking out an itinerant's license.

**An Interesting Case of Fœtus Inclusus.**—The *Lyon médical* for June 4th cites the following case from the *Journal de médecine de Paris* for May 31st: The patient, a student seventeen years old, received a slight blow on the upper part of the abdomen. Up to this time he had never felt any troublesome symptoms, but after the blow the abdomen increased in size day by day until at the end of two years the swelling had attained the size of a child's head. An operation was then deemed necessary, and it was performed by M. Mayde and M. Sanger, who found, on opening the abdomen, a fœtus which



measured forty-four centimetres. It appeared to be about five months old. The head was rather badly deformed, but the limbs were almost regular in shape. The skin was somewhat retracted and thick. The hairy system was regularly localized and the hair on the head measured not less than thirty centimetres in length. The tumor was situated under the peritoneum not far from the liver, between the mesenteric folds, and contained, besides the fetus, which was of the female sex, an abundant yellow liquid of a gelatinous consistence. The patient died twenty-four hours after the operation.

**Lactation Atrophy of the Uterus.**—In an article on this subject published in the July number of the *American Journal of the Medical Sciences*, Dr. Hiram N. Vineberg, of New York, remarks that it is singular that in this country the subject of lactation atrophy of the uterus has received absolutely no attention. It is even more singular, he says, that the condition seems entirely to have escaped observation. He calls attention to that form of atrophy which accompanies lactation, with or without amenorrhœa, in which the reduction in size is temporary only, the return to the normal size being in some cases dependent upon the cessation of lactation, in others, again, regeneration of the uterine tissue occurring while lactation is going on.

Two varieties of lactation atrophy are recognized, says Dr. Vineberg, the eccentric and the concentric. The term eccentric atrophy is applied to a uterus whose cavity is of the same depth as the ordinary parous organ, but whose walls are appreciably thinner and more flaccid. When the organ is decidedly smaller in all its dimensions, when the cavity from the fundus to the border of the anterior lip of the cervix does not measure more than from 4.5 cm. to 6.5 cm., and the uterine walls are thinner than normal, though they may not be flaccid, the term concentric atrophy is employed. Concentric atrophy may, therefore, be considered as only a higher grade of the eccentric variety. As might be expected, various grades between the two varieties are met with. The terms are merely arbitrary, but serve the useful purpose of concisely designating the degree of atrophy. It is not uncommon to meet with an eccentric atrophy which under continued lactation becomes concentric.

According to the author's observations, the process affects the body and the cervix equally. In some of his cases, he says, it is true, the cervix was much larger in proportion than the body, but it seemed to him that the enlargement was due to a pathological lesion, such as a bad laceration or an accompanying endocervicitis. These observations harmonize with those of Engstroem and Mueller. Thorn, however, states that in his cases the cervix remained unaffected, and that it showed atrophy only in the very highest grades when the external genitalia and the abdominal walls might also become involved in the process. Gottschalk drew similar conclusions from his cases.

Whether or not, says Dr. Vineberg, puerperal atrophy apart from lactation frequently occurs must be left to future investigation. To its non-occurrence, he thinks, may be attributed many of the gynecological cases seen in private practice. The history which every one will readily recognize is usually as follows: The patient has had a normal labor and normal puerperium. At the second, third, or fourth week, the custom varying in accordance with the social standing of the parturient, the attendant physician has dismissed himself, saying that everything was all right. The woman says that she

felt well for some months after labor, but that for the past few months she has suffered from leucorrhœa and a sense of weight in the lower part of the abdomen, and has been tired on the least exertion. There may be and there usually is backache, with more or less of a dull pain extending down both thighs. On examination, one finds redundant vaginal walls, a large uterus of flabby consistence, some leucorrhœal discharge, and abnormal mobility of the uterus owing to a lax condition of the pelvic tissues. The striking feature of these cases is the gradual onset; the patient can scarcely tell just when she began to have symptoms. This picture is most frequently met with among the better classes, in whom lactation is the exception rather than the rule.

Dr. Vineberg states that it is his firm conviction that this condition is the outcome of imperfect involution and could readily be avoided if the attendant physician kept his patient under observation for at least three months after the puerperium. It is his custom at his last visit to request the parturient to present herself at his office for examination once a week or once every two weeks until at least the twelfth puerperal week. By observing this rule he has frequently been able to avert, by timely recognition, the ill consequences accompanying deficient involution.

It naturally follows, he continues, that there is nothing to be said on the treatment of lactation atrophy. The nursing woman should be kept under constant surveillance, an effort should be made to keep up good nutrition, and the period of lactation should not be allowed to be prolonged beyond a reasonable period.

Dr. Vineberg draws the following conclusions: 1. Modern researches tend to prove that post-puerperal involution consists chiefly in a retraction and contraction of the individual muscle fibres whereby the whole uterus is reduced in size.

2. When involution goes on to its full completion the uterus is reduced to a size smaller than that of the non-parous organ.

3. This condition of complete involution is known as post-puerperal "hyperinvolution." It is principally seen in nursing women, and from this circumstance has received the cognomen of *lactation atrophy*.

4. The so-called lactation atrophy is a normal and desirable condition. It is temporary in its duration, but very rarely, under unfavorable circumstances, may become permanent.

5. When the parturient is unable to perform the function of lactation it is the duty of the physician to endeavor to bring about "hyperinvolution" by other means at his disposal. An observance of this course will prevent many a woman from developing a host of gynecological affections which frequently result from imperfect involution.

**The Physiological and Therapeutical Action of the Blister.**—In the issue of the *Journal* for June 20th we published an abstract of an article by M. Huchard on The Rise and Fall of the Use of the Blister, which appeared in the *Journal des praticiens* for May 30th, in which he alluded to the objections that had been made against the employment of the blister and the dangers to which it might give rise. In the same journal for June 6th M. Ferrand contributes a paper which seems to be in the nature of an answer to M. Huchard.

The first question to be considered, he says, is, What is the rôle of the fly blister in infectious diseases? It has been stated that it should be banished from the

treatment of these diseases because it adds a new toxic agent to those which already exist in the organism. The blister is not necessarily toxic. It is a therapeutic agent the physiological properties of which may be employed without exposing the subject to any toxic influence. It is a less dangerous agent, for instance, than the majority of the medicaments in the aromatic series, which easily become dangerous, but for which they are not to be condemned.

The fly blister is a remedy that may render good service, because it is an eliminator and a drastic when it is judiciously employed; it is also a general excitant which influences primarily the circulation and secondarily the nervous system, and in all cases it is capable of arousing the activity of one or the other of these systems when it has declined, as, for example, in infectious diseases, where it often falls so low that it sometimes seems paralyzed. Furthermore, it may exert an antiseptic influence in infectious diseases, as may be proved by the following, says the author: According to the researches of Devoto, which were based upon the works of Lucatello and Antonini, and also according to the studies of Valvassori and Peroni, the fly blister causes the multiplication of the leucocytes, that is, of those elements which attack the infectious microbes in order to accomplish their destruction and annul their deadly influence. The same authors have also demonstrated that the blister notably increases the bactericidal power of the serum. It may be concluded then, he says, that the blister is an eliminator, a neuro-vascular excitant, and an antiseptic.

Concerning the question which was raised in regard to the dangers that the blister might give rise to in the urinary tract, M. Ferrand responds by showing that authors have successfully employed this method in the treatment of diseases of the kidneys and in certain cases of albuminuria. He cites Cruveilhier and Lancereaux as having employed this treatment advantageously; Rayer also reported five cases in which the treatment was successfully employed. He cites many others to prove that a treatment which may be useful in diseases of the kidneys should not be proscribed under the pretext that in certain well-known and exceptional conditions it may give rise to danger.

M. Legendre, continues M. Ferrand, stated that when this treatment was once established in thoracic affections it prevented all other active treatment. What, he asks, are these therapeutic means that the blister renders impossible? Certainly not cupping, plasters, or even baths.

Regarding the renal complications referred to by M. Huchard, says M. Ferrand, there are patients whose renal susceptibilities are great and may be aroused by any excitant. How many patients there are who present symptoms of acute uræmia and even of uræmic encephalopathy from various causes, with which the blister has nothing to do. There are others in whom the skin can not bear the contact of diachylon without erysipelas manifesting itself—those in whom the use of antipyrine gives rise to a violent urticaria; those who become intoxicated with an insignificant dose of opium or of potassium iodide, etc.—and yet we do not proscribe these agents because of the intolerance shown for them in exceptional cases.

To sum up the whole matter, continues M. Ferrand, the blister is a therapeutic agent which must not be abused in its employment; nevertheless, it is a valuable agent because it possesses a well-defined physiological action as follows: On the nervous system, which Brown-Sequard described as being either dynamogenic or in-

hibitory, according to the conditions in each case; a vascular action, producing either anæmia or congestion, according to the time and the distance at which it is observed; a nutritive action, producing atrophy and consequently resolution. Its action is therefore incontestably revulsive, and it is, furthermore, a nervous and vascular tonic.

**The Importance of a Thorough History in Surgical Cases.**—Dr. A. Hille made this the subject of his Gröbsswald inaugural dissertation, in 1895. He cites a number of cases showing the diagnostic importance of the patient's previous history, among them one in which, in the course of a radical operation for scrotal hernia, Helfferich found a diverticulum from the bladder in the hernial sac. It was recognized by its muscular contractions, and so escaped injury. It was subsequently ascertained from the patient that when he held his urine for a long time he had had pain on urinating, radiating to the hernia, and that by pressing on the hernia he could mitigate the pain. It is particularly in recent injuries of joints, says Hille, that the past history is of importance; sometimes it may be ascertained that the joint has been injured long before, perhaps in childhood, in such a manner as to make the diagnosis very difficult if the old injury is unknown or unhealed.

Dr. C. Lauenstein, of Hamburg, who contributes a summary of Hille's dissertation to the *Centralblatt für Chirurgie* for June 27th, refers to Helfferich's advice to young surgeons to make as much use as possible of the history of the patient, and remarks that the previous history is of the utmost value in rare fractures and dislocations, but he is careful to add that it must be most rigorously compared with what is detected by physical examination.

**The Results of Injections of Erysipelas Toxines upon Malignant Growths.**—At a recent meeting of the New York Surgical Society, a report of which is published in the July number of the *Annals of Surgery*, Dr. L. A. Stimson, Dr. A. G. Gerster, and Dr. B. F. Curtis submitted the following report upon the use of erysipelas toxines in the treatment of malignant disease:

"Both before and since our appointment as a committee, we have been able to observe, individually and together, a considerable number of cases treated by this means, and in no case have we found any amelioration which held out a prospect of ultimate cure. We have, on the contrary, observed in some cases that the rate of growth of the disease was much more rapid during the treatment. The treatment also imposes a very severe tax upon the strength of the patient, and apparently hastens the cachexia in most cases.

"We believe that in the instances of apparent cure or marked improvement the correctness of the diagnosis is open to doubt.

"We therefore submit:

"1. That the danger to the patient from this treatment is great.

"2. Moreover, that the alleged successes are so few and doubtful in character that the most that can be fairly alleged for the treatment by toxines is that it may offer a very slight chance of amelioration.

"3. That valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial.

"4. Finally, and most important, that if the method is to be resorted to at all, it should be confined to the absolutely inoperable cases."



## Original Communications.

### HYDROCEPHALIC IDIOCY.

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HYDROCEPHALUS is a not infrequent cause of idiocy. Producing, as it does, pressure upon the brain substance, with consequent impairment of function, either from the compression alone or from actual destruction by atrophy of the tissues, we note among the multiform results of hydrocephalus, enfeeblement of the mind, varying from simple feeble mindedness to complete idiocy, as well as paralysis, convulsions, blindness, and the like.

Bourneville distinguishes three classes of hydrocephalic idiocy, viz.:

1. Simple or common hydrocephalus.
2. Scapho-hydrocephalus.
3. Symptomatic hydrocephalus.

The first class he again divides into two groups: (1) Simple hydrocephalus without malformation of the brain, and (2) simple hydrocephalus complicated with malformations or lesions, such as absence of the corpus callosum or of the cerebellum. This latter variety may include either the ventricles alone, or, at the same time, the arachnoid cavity, in which case it may be at times encysted in the arachnoid cavity.

To the writer this classification is unnecessarily complex. For instance, the second group is distinguished merely because the head has a scaphoid shape. But, since in simple hydrocephalus there may be several varieties of cranial conformation, as will be noted later, it scarcely seems justifiable to make of scaphocephalus a distinct type. The writer would, therefore, divide hydrocephalus into two classes only, viz.:

- I. Primary hydrocephalus.
- II. Secondary hydrocephalus.

To the first group belong the cases of ordinary hydrocephalus of unknown pathology. In the second class are comprised such cases of hydrocephalus as are secondary to meningo-encephalitis or encephalic tumors.

The condition we are more immediately concerned with is primary hydrocephalus, known variously as chronic hydrocephalus, hydrocephalus internus, and "water on the brain." It consists of an excessive accumulation of fluid in the ventricles of the brain, which expands the cavities to a greater or less degree, sometimes enormously, thus thinning the brain substance surrounding the fluid, and increasing the size of the head by separation and spreading out of the bones. The disorder is congenital or acquired. If acquired in childhood there is enormous development of the cranium. If acquired later in life the expansion of the skull may

be slight or imperceptible. Where defect or malformation of the brain coexists the fluid may be found not only in the ventricular cavities, but also exterior to the brain, constituting the condition of hydrocephalic anencephalus. Occasionally spina bifida coexists.

**ÆTIOLOGY.**—In all cases of hydrocephalus a neuropathic basis is found. Direct heredity is rare, though it is sometimes noted. Bourneville mentions a mother and two children affected with hydrocephalus. We discover commonly among the ascendants various neuroses or psychoses. Alcoholism in the parents is particularly frequent. In twenty-two cases reported by Bourneville, sixteen showed alcoholism in the antecedents, two abstinence, two no alcoholic history, and in two no history could be obtained. Insanity, imbecility, epilepsy, and migraine seem to be especially common conditions among ascendants. Disease of the mother during pregnancy is a not infrequent determining cause, such as instanced by Bourneville in a case having variola during the sixth month of pregnancy. Other conditions—for example, emotional excitement and accidents during pregnancy—seem to exert an influence on its origin. In some instances no determining cause will be ascertained.

**PATHOLOGY AND MORBID ANATOMY.**—The true pathogeny of primary hydrocephalus is unknown. It is generally explained as being due to a chronic intraventricular meningitis, a congestion of the ependyma. But in many of these cases nothing abnormal is observed about the ependyma save thickening. It is possible that a careful study of the manner of secretion of the cerebro-spinal fluid and of the relations existing between the ependyma and the external serous membrane of the brain may help to elucidate the origin of the disorder; for there is some reason for believing that a sort of current of fluid flows from the ventricles into the exterior serous cavity through the foramen of Magendie, the foramina of Mierzejewsky, and two other foramina which have been described but are of uncertain existence. The ventricular walls secrete the cerebro-spinal fluid and the exterior serous cavity absorbs it, according to this theory. Thus, then, there may be three processes by which primary hydrocephalus may be induced: hypersecretion in the ventricular spaces, occlusion of the foramina mentioned, and disorder of the absorbent apparatus. An interesting study of the subject along this line might be made.

When the fluid begins to increase in the ventricles, these become dilated, as a rule equally, occasionally unequally from obliteration of the foramen of Monro. The dilatation may be restricted to the lateral ventricles, or may include the third and fourth also. With the distention of the ventricles compression of the brain substance takes place, giving rise to functional impairment of various kinds and degrees. With increase of pressure, atrophy of the compressed parts occurs. The septum between the ventricles may disappear and the brain en-



velope become thin as paper, so that the hydrocephalus is like one enormous cyst filling the cranial cavity. The basal ganglia and brain stem become flattened. Examination of the cerebral envelope shows atrophy and degeneration of cells and fibres. The distention may go on until the cerebral tissues and the membranes vanish almost altogether. The amount of fluid has been known to reach six, eight, ten, twenty, and even twenty-seven pints. The following is an instance in point (a case from the Randall's Island Hospital for Idiots, the autopsy of which I reported at the New York Pathological Society—see Proceedings, 1894, page 91):

A female child, aged eighteen months; hydrocephalus, whether congenital or acquired unascertained. Circumference of head, 51.5 cm.; antero-posterior diameter, 18 cm.; greatest transverse diameter, 15 cm.; naso-occipital arc, 32 cm.; binauricular arc, 34 cm.

Blindness and nystagmus; widely gaping fontanelles; spastic diplegia; occasional convulsions, and just before death opisthotonus. At the autopsy sixty-four ounces of reddish serum were first removed by tapping the anterior fontanelle. The skull and dura were exceedingly thin. The falx cerebri had disappeared. Cutting through the thin dura, nothing was to be seen in the great cavity of the head of any brain proper. The membranes usually covering the cerebrum had disappeared with that organ. At the base of the skull the floors of the ventricles and the basal ganglia stood out promi-

in the right hemisphere, over the whole of the temporo-occipital region, the wall of cerebral substances was but a millimetre in thickness, and at one place here near the fissure of Sylvius, the brain substance was absent altogether at a space of four centimetres in diameter, closed merely by a fine meningeal veil. In this case, then, the process of complete atrophy of the brain was arrested by death.

As the ventricular cavities dilate, pushing the brain envelope with them, the skull cavity is distended, and the cranial bones are separated, made thinner, and expanded in area. The enlargement of the head is directly proportional to the youth of the patient. Cases beginning before or shortly after birth will present greater expansion of the cranial cavity than such as have a later origin. Sometimes some sutures give way and others become synostosed. Where sutures are separated, Wormian bones often form, or a membranous connection is established between the cranial bones.

Occasionally in these cases of primary hydrocephalus, the defects of brain substance are not due to pressure-atrophy, but there is an associated condition of malformation or defect. Thus, in an autopsy of Bourneville's on a girl, about thirteen years of age, with congenital hydrocephalus, idiocy, and epilepsy, the hemispheres of the cerebellum were totally absent, the cerebellum being represented by the vermis, which was the size of a pigeon's egg. Perhaps such a defect and others which have been described, are due to a pressure-atrophy beginning very early in foetal life.

As regards the pathology of secondary hydrocephalus we possess more definite knowledge. In this the internal hydrocephalus is caused by obstruction of the veins of Galen or by obliteration of the foramina of Monro, Magendie, or Mierzejewski. Common causes are tumors of the cerebellum, such as sarcomata and tubercles. Meningitis may act in the same way. The amount of hydrocephalus, ventricular dilatation, and expansion of the skull thus induced will depend directly upon the youth of the infant or child. As a rule, secondary hydrocephalus never reaches the extent of the primary form, owing to the rapidly fatal nature of its cause. In these cases we seldom see pressure effects beyond flattening of the convolutions and moderate expansion of the cranial vault.

The cases of acute hydrocephalus due to meningitis serosa, and the cases in which a defect of brain substance is counterbalanced by an equal bulk of cerebro-spinal fluid, do not commonly fall under the heading of this paper.

In chronic hydrocephalus internus there seems to be a special susceptibility of the membranes to acute disease, so that at autopsy it is not uncommon to find evidence of an acute meningitis, simple, hæmorrhagic, suppurative, or tubercular.

The fluid found in hydrocephalic idiots has been frequently analyzed. In a case of Bourneville's the analysis of the hydrocephalic fluid, withdrawn nine hours

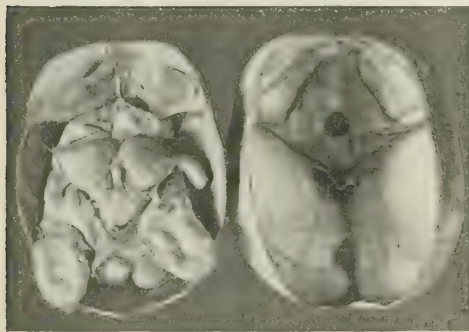


FIG. 1. The cranial cavity in hydrocephalus, showing basal ganglia and cerebellum intact, but only vestiges of the cerebrum (parts of the temporo-occipital lobes).

nently, and back of these parts, lying on the tentorium, were the only vestiges of a cerebrum, parts of the two occipital lobes. On removing the tentorium, the cerebellum was found to be of about normal size. Microscopical examination showed degeneration and atrophy of the lateral columns of the cord (Fig. 1).

In this case, then, we have to do with distention and atrophy of the encephalon pushed to its greatest extreme.

Case IV, in a series of autopsies by Bourneville, is a good illustration of the nature of the process of compression and atrophy: A girl, a complete idiot, died at the age of about two years. Five hundred grammes of fluid were found in the brain cavity, the brain-envelope having become merely a sac of varying thickness. For instance,

after death, resulted as follows: Color, pale yellow; aspect, clear after standing; reaction, neutral; odor, like that of blood; consistence, slightly viscous; density, 1.006; organic matter, 1.65; salts, 10; total fixed solids, 11.65; phosphoric acid, 0.22; sodium chloride, 0.80; albumin, 0.26; leucocytes, very few; red blood-corpuscles, considerable.

**SYMPTOMATOLOGY.**—The enlargement of the head is ordinarily the first symptom to attract attention. It



FIG. 2.—The naso-occipital arc in oxy-hydrocephalus.

may be so large at birth as to interfere with delivery, or the expansion may not be noteworthy until during the first months or first years of life. While there is commonly a great similarity of cephalic contour in most cases, so that we have come to look upon a certain slope of head as a characteristic type, this is by no means always true, for irregular synostoses may alter the outlines considerably (see Figs. 2, 3, 4, and 5).

In a typical hydrocephalic child the head is quite evenly expanded into a somewhat globular shape, when



FIG. 3.—The naso-occipital arc in scapho-hydrocephalus.

viewed from the lateral aspect (Fig. 6). Looking down upon the outline of the horizontal circumference, it has rather a triangular contour with the apex forward (trigonocephalus). The one illustrated in Fig. 5 has a perfect-

ly round head. The face seems puny and weazened in contrast to the enormous head above it, and is triangular in shape. In young hydrocephalic patients the fontanelles gape widely, and the sutures are often open, so that the pulsations synchronous with the pulse, the hydrocephalic souffle, and fluctuation may be perceptible. In older cases both sutures and fontanelles are commonly closed. Examination with electric light, either in the throat or at the side of the head, will in marked cases show translucency of the skull. Young children,

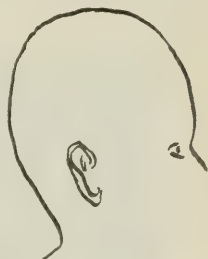


FIG. 4. The naso-occipital arc in another form of oxy-hydrocephalus.

through weakness of the muscles of the neck, tend to let the heavy head fall forward, backward, or sidewise. Later on the head, even though quite heavy, may be held erect. In very marked cases the head is never held up at all. The forehead may be wrinkled as if in pain, though ordinarily in slowly progressive patients the face is placid. There is generally a superciliary depression.



FIG. 5.—An oxy-hydrocephalic idiot at Randall's Island.

The features are pale, and on the thin white skin of the face and head the blue veins stand out markedly. Dentition is commonly retarded, and the teeth are badly preserved, though sometimes they are exceptionally fine. Squint and nystagmus are not infrequent.

**GENERAL PHYSICAL CONDITION.**—Rhachitic deformities of the thorax are not uncommon, such as the thoracic chaplet, exaggeration of the curvature of the posterior angle of the ribs, and slight kyphosis or scoliosis, or both. The abdomen is frequently enlarged. The pelvis is seldom affected except in rhachitic cases, where its altered position is purely compensatory. There is general muscular weakness. Anæmia and emaciation are common,

and nutrition, as a rule, is so impaired that a great number have a sort of progressive cachexia or marasmus. They usually die of pulmonary congestion. There are exceptional cases, however, in which the general health is excellent. Subnormal bodily temperature is the rule in hydrocephalus. Increase in weight and bodily growth

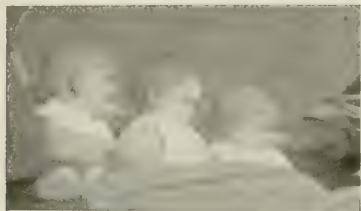


FIG. 6. — Three cases of hydrocephalic idiocy, showing typical head contours.

often proceed as in normal children, except in cases presenting paralyzes. Puberty is apt to be retarded in bad cases. Learning to walk is retarded considerably, even if no paralysis be present, when the disease begins early. The gait is apt to be affected by the difficulty of balancing the head, so that it is slow, shambling, weak, and awkward to a degree depending upon the extent of the interference.

**PARALYSIS.**—Very often we meet with paralyzes which differ in degree and character as much as do the infantile cerebral palsies in general. They depend usually upon pressure-atrophy of the cerebral segments of the motor tracts. Hence their development is slow—first a paresis, then complete paralysis; we meet with monoplegias, hemiplegias, paraplegias, and diplegias. As a result, we find in the paralytic limbs retardation of growth, exaggerated reflexes, and spastic contractures. Hemiplegia naturally signifies a greater increase of ventricular fluid on one side than on the other, or suggests dilatation of one ventricle alone. I have not observed in this species of infantile cerebral palsy the methemiplegic movements common to other forms. When hydrocephalus is suspected of being secondary to cerebellar neoplasms, the motor disorders characteristic of such lesions should be looked for.

**EPILEPTOID CONVULSIONS.**—Convulsions not only generally usher in the last stages of the disorder, but they are not at all infrequent during its progress, constituting sometimes a real symptomatic epilepsy. Occasionally the epilepsy is local—a hemi-epilepsy—but general convulsions are the rule. While we are disposed, as a rule, to look upon such explosions as cortical in their origin, episodes significant of critical increases of cortical pressure, this is not always true. My case, reported above, of a hydrocephalic child with scarcely any cortex left in its wasted brain (portions, too, of only the temporo-occipital cortex) was further remarkable in that it had occasional convulsions, the last at the time of its death.

**GENERAL AND SPECIAL SENSIBILITY.**—Cutaneous sensibility is rarely affected, except in extreme cases where the sensory tracts are involved. Taste, hearing, and smell likewise seldom suffer. Enfeeblement of vision and great myopia are constant symptoms, and total blindness is quite common. In primary hydrocephalus there is rarely any pain or headache.

**PSYCHOLOGY.**—The mental symptoms in hydrocephalic idiocy vary greatly according to the degree of injury to the intellectual substratum. The tendency is to progressive enfeeblement along all lines of psychic growth, so that we find among them each degree of impairment, from feeble-mindedness to imbecility and complete idiocy. Where the malady is considerable, the patient finds it difficult to support the head, and, consequently, inclines to lie in bed or to sit still with the head hanging down. He gradually loses any play of expression he may have had. The sad, dejected look is commonly the last expression to take its departure. A profound apathy is noticeable in looks, attitudes, and movements. The faculty of attention gradually loses its sharpness and grows more and more unstable.

In the early stages he has all of the normal instincts, but with the evolution of the disorder these fade away, and the patient enters upon a purely vegetative existence, with a tendency to sleep and to speak little if he speak at all. The hydrocephalic idiot is ordinarily timid, fearful, gentle, neither affectionate nor mischievous, with a certain refinement of face, expressive of sadness and languor. Sollier looks upon the hydrocephalic idiot as a complete contrast to the microcephalic. Language is apt to be slowly developed, and later slowly lost. The will is almost absent as a rule. Memory is at first fair, then gradually impaired, and, finally, vanishes wholly. A peculiarity in a considerable number of cases of hydrocephalus is a tendency to sudden accessions of anger, which Bourneville very suggestively compares to the convulsive crises of the malady. Co-ordinated ties, such as antero-posterior and lateral oscillation, are sometimes met with in this as in other forms of idiocy. The sentiment of vanity seems to be rather strong, especially among hydrocephalic females. While the mental faculties are generally much impaired in all directions in severe cases, distinctive psychological features can not be portrayed in connection with hydrocephalic idiots, and it is often remarkable how much intelligence and expression may remain in an individual apparently afflicted to the extreme degree.

**COURSE AND DURATION.**—Nothing is more uncertain than the course of hydrocephalus. Sometimes beginning before birth, the process may cease for a long period or altogether. In the greater number of cases it is a few months after birth before the increase of fluid begins to manifest itself, the infant up to this time developing like normal children. Then convulsive crises or meningitic congestions announce a new inception of the malady. Spontane-



ous recoveries or arrests are not infrequent. On the other hand, the progress may be steady and continuous and slow or rapid. The inception of the disorder may be so insidious and the course so protracted that it is only discovered by accident (the misfit of a cap or hat) that anything is wrong. Some idea of the varying progress of cases may be gathered from the following cephalic measurements taken from Bourneville's reports:

CASE.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.
YEAR.	1885	1887	1886	1888	1887	1888	1893	1886	1889
					Apr. Jun.				
Circumference in centimetres.	58.0	59.5	60.0	62.5	46.0	51.0	53.0	55.0	56.0
Bimauricular arc.	34.0	36.0	32.0	46.5	32.5	34.5	37.0	38.0	39.0
Naso-cephalic arc.	34.0	35.5	32.0	41.5	30.5	36.9	32.0	31.5	35.0
Antero - posterior diameter.	19.5	19.0	19.8	20.5	15.5	16.8	18.6	20.3	19.3
Bimauricular diameter.	12.7	12.5	18.0	20.0	11.0	11.0	10.5	12.0	18.0
Bimauricular diameter for.	16.0	16.5	18.0	18.6	11.2	14.5	14.0	15.0	13.5
Bimauricular diameter.	16.0	16.5	18.0	18.6	11.2	14.5	14.0	15.0	13.5

Rokitansky reports a case of enormous hydrocephalus where spontaneous rupture through one of the sutures took place with the result of ultimate recovery. The common termination of the disease is from bronchopneumonia or meningitis at the average age of three to six years.

DIAGNOSIS.—It is not often that there is any difficulty in diagnosing the affection when progressive enlargement of the head, with separation of the sutures and thinning of the cranial bones, is apparent. There are cases of cerebral hypertrophy and of hyperostosis of the cranial bones which may at times be confused with chronic hydrocephalus, though it must be remembered that the meningitic and convulsive crises of the latter are distinctive. The most puzzling cases are those of hydrocephalus acquired after union of the sutures. These are, however, rare cases, and, as a rule, symptomatic of other cerebral affections. In hydrocephalus which appears to be symptomatic, headache and vomiting, absent in primary hydrocephalus, should suggest neoplasm as a cause. Lumbar puncture for the withdrawal and examination of the cerebro-spinal fluid for bacilli should be resorted to whenever the question of tuberculous meningitis comes up as a question of diagnosis.

The ophthalmoscope should be employed to determine neuritis and atrophy of the optic nerve, not found in cerebral hypertrophy or cranial hyperostosis, but not infrequently in hydrocephalus.

PROGNOSIS.—Naturally, the prognosis is grave. Death in childhood from some intercurrent affection is the usual termination, though spontaneous arrest of the progress of the disease, with a fairly long life subsequently, is known to occur at times. Complete recovery is, of course, extremely rare, for the damage done to the brain by retardation of its development or by abrogation of some of its functions can be only faultily repaired. If much harm has already been done, such as the onset of paralysis of a limb or limbs, or the production of

blindness, the probability of an individual's survival beyond childhood is small. Bourneville quotes Gratiolet as believing that a certain degree of hydrocephalus, by dilating the cranial cavity, may favor the development of the brain, and thus give rise to intellectual growth of a high order, as instanced in the case of Cuvier. It is certainly true that in our social life we occasionally meet with individuals of intellectual superiority whose cephalic contours would indicate an arrested chronic hydrocephalus. Thackeray has been cited as an instance of genius coexisting with hydrocephalus. However this may be, I am inclined to agree with Bourneville that the skull is an elastic vestment of the brain depending for its growth altogether upon the development of the encephalon.

TREATMENT.—The treatment of chronic hydrocephalus of the simple, primary kind is medical or surgical. Bourneville sums up the medical treatment, which he has found successful in some instances, as follows:

1. Compression (Barnard, Trousseau).
2. Revulsives (Gelis).
3. Internal administration of calomel (Gelis).

The head of the child is shaved and a capeline bandage is kept applied for a week. After a week's rest, it is renewed, or, if any incident contraindicates this, daily friction with mercurial ointment is substituted. At the same time calomel is administered twice weekly, in one-and-a-half-grain doses. Every month, for a year or more, a vesicatory is applied to the head for from fifteen to twenty hours, and when it begins to dry compression is again employed. In addition to this, exercise, massage of the limbs, salt baths, douches, tonics, etc., are used as required. Pedagogic treatment is important for this class of cases when cure or arrest of the disorders seems evident.

Thus far surgical procedure of any kind has not proved to be of particular value. Most patients have died as a result of operation. Possibly a more conservative method of operating may be devised in the future. Up to the present time the surgical procedures resorted to have been (1) craniectomy and drainage; (2) puncture of the lateral ventricles; (3) puncture of the fourth ventricle; (4) lumbar puncture.

Craniectomy with drainage may be excluded nowadays altogether from the category of expedients. The patient is almost certain to die as a result of the sudden evacuation of a large amount of fluid.

Puncture of the lateral ventricles, even if carried out carefully and skillfully according to Keen's method (*Medical News*, December 1, 1888), promises but little more, and had best be abandoned as a remedial measure in this class of cases.

Trephining of the occipital bone, three fourths of an inch below the superior curved line, to the right of the middle line, with subsequent enlargement of the opening downward, and the insertion of a probe into the fourth ventricle, is an operation which was proposed by

Parkin (*Lancet*, 1893) and carried out in four cases with the recovery of two. It seems to me that on theoretical grounds this form of procedure has much in its favor, and it deserves more extensive trial. Another similar measure, successfully tried, is trephining in the region of the temple and insertion of the cannula in the sub-arachnoid space of the fissure of Sylvius.

Lumbar puncture, by which is meant the insertion of a drainage needle through an intervertebral space in the lumbar portion of the spinal column into the spinal cavity, has been rather extensively employed of late in a great variety of affections of the central nervous system, hydrocephalus being among them. Jacoby (*New York Medical Journal*, December 28, 1895, and January 4, 1896) has recently made a careful study of the subject of lumbar puncture in connection with a number of central nervous maladies. Quincke seems to have been the originator of the method (Tenth International Congress, 1891), though Wynter (*Lancet*, 1891) proposed it about the same time. It seems to be a simple and harmless procedure, as well as a powerful means of reducing intracranial pressure. An ordinary aspirating needle (a millimetre in diameter, eight centimetres long) is aseptically employed. The space between the third and fourth lumbar vertebrae is selected, five millimetres to the right of the median line, though in children the puncture may be made directly in the median line. An anæsthetic is rarely required. The needle should be pushed in for from two to eight centimetres. The fluid begins to flow out in drops or in a small stream according to the degree of intracranial pressure. The amount of fluid allowed to flow out must be gauged by the indications and conditions. Fürbringer withdrew in one case a hundred and ten cubic centimetres at one time. On removing the needle, the puncture is closed with a little iodoform collodion and a compress with adhesive plaster. Fürbringer, Heubner, and Ewald report temporary improvement in hydrocephalus after lumbar puncture, but the method is as yet too novel and has been too little used to allow of any definite conclusions as to its value in this class of cases. Several cases of recovery from hydrocephalus by means of this measure have been reported.

Operation does not preclude the employment of other means also. Horizontal bandaging of the head with a wide rubber bandage after tapping, and the use of cod-liver oil and phosphorus, are certainly of considerable service, and should not be neglected.

60 WEST FIFTIETH STREET.

**Boxing the Ears.**—A medical magistrate (Dr. Hetley) at Penge has drawn attention to the evil effects of boxing the ears of school children, and to the duty of avoiding this form of punishment, not only from the harm which results to the ear itself, such as rupture of the membrana tympani and concussion of the labyrinth, but from the even more serious consequences caused by the resulting supuration in the middle ear. It should also be recognized that the inattention of children is, as a rule, due to impaired hearing—a condition which in itself often renders the ears more liable to injury from blows.—*Brit. Med. Jour.*

## SOME NOTES ON TWO CASES OF SARCOMA OF THE NASAL CHAMBERS AND ACCESSORY SINUSES.\*

By ARTHUR AMES BLISS, A. M., M. D.,  
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At the German Hospital, of Philadelphia, during the past year, we have had the unusual experience of receiving two children, one four years of age, the other nine years, suffering from large sarcomatous growths within the nasal chambers.

**CASE I.**—Walter W., aged four years, family history is excellent. One year ago last January (1895) it was noticed that the left nostril of this child was becoming occluded. The surgeon who examined the nares at this time pronounced the case to be one of nasal polypi, and removed considerable spongy, myxomatous tissue. Six days after this operation the growth recurred. The parents of this child state that during the succeeding eight months the occluding mass was cleared away by means of forceps as many as thirty times. After each attempt at removal, however, the growth recurred promptly, each time involving an area larger than before. The child was admitted to the German Hospital on September 2, 1895. I saw the case two weeks later. The condition presented then was as follows: A soft, fungoid mass of coarse granulations was visible just within the left naris, appearing to fill completely this side of the nose. By its pressure the septum had been forced far over into the right naris, being pressed almost against the outer wall of this side. There was tenderness over the maxillary antrum of the left side, but no swelling. The left eyeball protruded from its orbit and was forced forward and outward. The posterior naris was filled completely with a soft myxomatous tissue which pressed downward against the soft palate. The external auditory canal of the left ear was filled with a similar growth of tissue. There appeared to be no involvement of the cervical lymphatics. In attempting to clear away these masses within the nares, I decided not to resect the superior maxilla, believing that such success as we could expect from any attempt at removal would follow as well from a simpler operation. I opened the maxillary antrum of the left side by dissecting the cheek from the underlying bone and raising it so as to expose the canine fossa and that part of the superior maxilla forming the outer wall of the antrum of Highmore. This bony wall was then removed by means of drills and a chisel, so that a good view was obtained of the interior of the antrum. This space was found to be packed tightly with the fungoid mass, which was removed by curettes, and the bony walls scraped. The roof, separating the orbital cavity from the antrum, was found to be intact. Having freed this sinus, I broke down the inner wall by means of cutting forceps, and, using the same instruments, cleared away the tissue within the anterior nares. This resulted in the removal of the larger portion of the lower and middle turbinated bones. I then introduced a forefinger into the posterior nasal space, passing my hand back through the patient's mouth. This finger was used as a curette, and served as a guide for a cutting forceps, which was passed through the left naris into the post-nasal space. The

\* Read before the American Laryngological Association at its eighteenth annual congress.

finger, aided by the cutting forceps, removed the masses of the growth from this area, and the surrounding bony walls were scraped. Considerable hemorrhage attended the different stages of this operation, but the area was thoroughly cleared without having made any large external wound. I packed the antrum with iodoform gauze as a daily dressing, and touched the raw surfaces with a strong solution of nitrate of silver, dusting iodoform into the nares and post-nasal space. The growth did not recur in the area operated upon, but the protrusion of the left eyeball was only very slightly reduced. During the six weeks succeeding the operation, the cervical lymphatic glands at the angle of the jaw and submaxillary region became greatly enlarged. The child began to manifest considerable difficulty in respiration. This was not due to any mechanical occlusion of the larynx by reason of enlarged lymphatic glands, but appeared to be of central origin. A series of short, ineffectual inspirations would be followed by a prolonged expiration, after which the child would breathe easily for a time, until another seizure of the same character would occur. The child was removed to its home on October 12, 1895, and died from exhaustion about six weeks later.

CASE II.—James S., aged nine years; family history good. Admitted to the German Hospital on April 2, 1896. The accompanying photograph illustrates very



CASE II.—Sarcoma of the left naris.

well this child's appearance, showing the growth protruding from the left naris, the marked exophthalmia, and the swelling of the cervical lymphatics of the left side. Until three weeks before admission, the child is said to have been well. His general condition was wretched, and it was not deemed advisable to attempt any operative treatment. He has returned to his home and, at the time of last report, was still living.

These two cases are somewhat unusual in the rapid development of the growths and in the early ages of the patients. As no autopsy was held in Case I, we can not state in what area of the nasal chambers the sarcoma took its origin. There is, however, a certain sequence in symptoms which is suggestive. In Case I the patient complained first of pressure high within the left naris;

then, of occlusion to breathing; then, of pain in the left ear and otorrhœa; then, of rapidly increasing exophthalmia.

The replies elicited from the parents of Case II give a somewhat similar history, although pointing to a much more rapid development. I would suggest, therefore, that both growths had their origin in the middle turbinate of the left side or within the ethmoidal sinuses; that they followed the paths of least resistance from their origin, growing downward to the floor of the naris, forward, backward to the post-nasal space, outward to the antrum. That then they began to work their way into more resisting structures, the Eustachian tube of the left side, involving, perhaps, the lymphatics about it, and thus reaching the ear; into the ethmoidal sinuses, and, later, the sphenoidal sinus, thus forcing the eyeball forward and outward. Finally, they began to involve the lymphatic chain in the neck.

Case I illustrates plainly the need for most radical measures in this class of cases. If the work is not to be most thoroughly done it had better not be attempted.

The method of operation followed in this case gave us free access to all parts of the area involved except the sphenoidal sinus, and, although somewhat more effectually reached, the ethmoidal sinuses. I doubt if a resection of the superior maxilla, and of the entire body of the nose, would have enabled me more effectually to reach these distant recesses into which the growths had penetrated.

#### SOME REMARKS ON ACUTE DISEASE OF THE LINGUAL TONSIL.\*

By H. L. SWAIN, M. D.,  
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PRIOR to 1884, when medical writers first called attention to the lingual tonsil, little had been observed about the peculiar strip of adenoid tissue situated at the base of the tongue. For many years it had been known to exist, the character of its tissue had been studied macroscopically and microscopically, and since the days of the laryngoscope its likeness had been present in every laryngoscopic picture, forming as it does the background for the epiglottis, and yet its importance had not been dreamed of, so little attention was accorded it while looking into the more interesting and better known larynx. About that time several different writers called attention to the fact that chronic enlargement of this, like any other part of the ring of adenoid tissue which surrounds the upper part of the pharynx, could and did take place, and caused when present certain symptoms, so definite in type that from description alone one might almost diagnose the case.

*A priori* one could have readily deduced the idea

\* Read before the American Laryngological Association at its eighteenth annual congress.



that of course this tissue would also participate in all acute inflammation of adenoid tissue; yes, might itself be the only part attacked; but one finds in literature only very few observations recorded until within a few years. Nowadays one sees rather frequent allusions to this kind of acute inflammation, but I fancy that many—yes, very many—cases of this acute disease pass even to-day unnoticed, masked as they are by trouble higher up and better to be seen, and are surely deserving of much more care than is often accorded them. To judge by literature, this last point is more than emphasized, for such reports as are published are mere accounts of the abscesses, which are of very rare occurrence in proportion to the number of acute troubles of this organ, while if mention is made at all of the simpler forms, it is in the most cursory and superficial way. For example, Seifert,\* writing in 1893, finds mention of some sixteen or seventeen cases of abscess from almost as many different sources, but only makes reference to eight articles where the simple form of trouble was discussed, and of these latter eight some names are included among those reporting abscesses. He had himself had at that time but three or four cases of acute inflammation of the lingual tonsil and one case of abscess.

Simonowski,† writing in the same year, found that he had twenty-two cases of acute inflammation in the lingual tonsil, eight of which had been of the peritonsillar type.

Since then a number of articles have been written on the matter, and some few cases of abscess have been reported; but, so far as my knowledge goes, none of them have considered the subject as thoroughly as the two mentioned.

In 1886 I published the results of some studies on the lingual tonsil, and have ever since been following closely the treatment of the chronic enlargement, alert for its every manifestation, yet only since 1892, when I had my first case of abscess, have I been mindful of the more acute phases. Now, however, I find the acute trouble really so frequent that I have this winter treated at least twenty cases of acute affections, and am sure that I have not correlated all that I might under that head. I have been particular to consider as such only those cases where the lingual tonsil not only looked and felt worse than any other part of the throat, but where the treatment directed to that part was the only treatment which gave any relief to the patient. In almost every case of badly inflamed fauces the lingual adenoid tissue will be red, and *vice versa*, so that the part most inflamed must be considered as claimant for the attention. Frequently, too, a faucial amygdalitis may be followed by the lingual, and, as in the former so in the latter, it may be an acute excitement on a chronically enlarged organ.

However much difference of opinion there might be

as to the frequency of this form of trouble, there can be no doubt of its occasional existence, and so I beg of you to bear with me while we consider some of the details.

In considering what sort of an organ we are dealing with, it must be borne in mind that by situation and in its anatomical peculiarities it is materially different from the faucial tonsil. It consists of an irregular flat strip of tissue stretching across the base of the tongue, lying between the papillæ circumvallatæ and the epiglottis, merging sometimes by direct continuity into the lower outshoots from the faucial tonsils. It is superimposed upon a firm base of solid muscular bands, fasciculæ from which run into its substance and interlace between the crypts. In thickness it is seldom more than an eighth of an inch, and when most thickened rarely measures more than three eighths of an inch. The crypts themselves, instead of being tubes, are shaped irregularly like the bowl of a lamp. Very little loose cellular tissue exists between it and the muscles, except downward and backward, where the muscles of the tongue radiate to meet their attachments on the hyoid bone, palate, and styloid process; there occurs in connection with the epiglottis some looser cellular or connective tissue. Directly over this tonsil must pass everything which goes into the œsophagus, and fluids especially have abundant chance to soak their way into its crypts and through its spongy epithelium, ready to be transported thence into the systemic circulation, for nothing could be richer than the blood and lymphatic supply of this region. So rich, indeed, is the former that the blood-vessels well-nigh form a plexus thick enough to be styled erectile. In fact, that the organ is important in this respect can be readily observed when it is considered how much dilatation the superficial veins suffer when there is any pressure on the larger trunks by enlargement of this organ, as evidenced by the varices so often seen on the base of the tongue anterior to the tonsil. The situation of the tissue further involves that every motion of the tongue in either swallowing or speaking is participated in by it, by no means a small item when it is acutely inflamed, and when enlarged it would most easily hit the epiglottis and the faucial tonsils at the side. This tonsil is developed much later than the faucial; in fact, the actual follicles which gather in the walls of the crypts, and make the distinction of this kind of tissue, are formed after birth. I have found them entirely absent in a child's tongue of six years, and very infrequent in one ten years old.

How different is everything in the faucial tonsil! Larger, thicker, loosely attached, easily adherent, earlier inflamed, and earlier developed, we should expect it to be more susceptible to acute trouble, and, the latter present, we should expect more swelling, more retention of foul products, severer constitutional symptoms, better facilities for deepening and spreading of the inflammation and of formation of abscesses, and finally the chronic enlargement more frequent, greater in size,

\* Fraenkel's *Archiv*, Bd. 5, S. 48.

† Reference in *Inter. Centrall. für Laryngologie*, etc., July, 1894, p. 24.

and more often acutely inflamed. On the other hand, the lingual tonsil is more liable to receive whatever of irritating and septic matter the ingesta of secretion of mouth and throat may contain, for all matter swallowed traverses it, and, being at the bottom of the throat, it gets the drippings from all the rest of the throat and overlying parts. However, these things seem to have little weight except as years go by; for just as in the very young child we more frequently see adenoid enlargement at the vault of the pharynx, in childhood and youth a greater tendency to enlarge the faucial, so in adult life, beginning any time after puberty, there seems to be an increasing tendency to inflame the lingual tonsil. Given, however, acute inflammation, we should expect but little swelling, as there are no adhesions, but little retention of foul products, and so more rarely circumtonsillar or deep-seated inflammation with formation of abscess. Should, however, an abscess develop, we should expect, as in quinsy, to find the formation of pus in the region where there is the nearest approach to a dead space, backward and downward toward the outer edge of the epiglottis. Swelling in this region would lead to pressure on return circulation of the surrounding parts, and there would be involvement of the epiglottis and glottis. In severe cases there would be oedema. As a matter of fact, these cases are rare, and even the severer forms are infrequent, just as we might infer from anatomical conditions. I have seen but two cases of abscess, the last being a year ago, while I have on record forty cases of undoubted acute affections of the lingual tonsil. These I have seen in the last two or three years, and of these only four or five could be called peritonsillar in type. They were all in persons over eighteen years old, and more between the years of twenty-five and forty. Eight in every ten had had previous attacks, or at least I judged them to have had chronic enlargement previously present. They all coughed some, most of them distressingly. Otherwise they had nothing different than one finds in such cases, and certainly presented, as regards frequency of the severe type of disease, marked contrasts to the same disease in the fauces.

In speaking of my cases of the acute inflammation and involvement of this tonsil, I have been particular not to mention their character except to refer to the abscess. Whatever inflammation may attack a faucial tonsil may, of course, inflict itself upon the lingual, and so we distinguish first the simple form, when a chronically enlarged tonsil is acutely reddened, swollen, and painful; the follicular variety, where with constitutional symptoms well marked, either alone or together with the faucial, frequently following the latter on the third or fourth day, the lingual tonsil exhibits well-marked plugs of mucus, which occasionally spread to an actual membrane; the circumtonsillar type, where the deeper structures are affected, and which occasionally results in abscess; and finally, true diphtheria has begun

on the lingual tonsil, or the latter has become involved in a diphtheritic process.

To go into the history of the causation of any or all of these varieties is but to rehearse all that is known on these same matters when connected with the other tonsils.

The first variety spoken of is vastly the more common, and is usually very simple when uncomplicated. The patient complains of having caught cold and has a sore throat. He generally volunteers that it is not in his tonsils, except where they are involved, but lower down, where one swallows, and points to the region of the hyoid bone. There is also the feeling of a lump, which makes swallowing painful, and commonly, if the swelling involves the lateral edge of the tonsil, shooting pains run upward toward the ear. More often than not, especially when there was much previous enlargement, cough is complained of, and, in fact, so frequently is this a cause of cough, as almost the only symptom of the trouble present, that I never fail to try the possibilities of treatment in every case of throat cough which is uncontrolled by simple remedies, or has not a known, definite, and sufficient cause. It always requires something to make a cough. Irritation exists somewhere, and especially when on lying down or going in or out the door, or on using the voice, a sudden explosion and prolonged coughing spell comes on, without raising, and due, as the patient frequently himself is conscious, to a tickle in an especial spot, one will find very often the hyoid region to be indicated. Something seems to be wrong in that region, and it is common to blame the poor larynx for it, often, 'tis true, with right. But sometimes the patient may be more accurate, and point to a spot on one side, and here, as in other cases, without his aid, if accurate observation is made, the physician can find the spot to correspond exactly with the reddest and most swollen spot in the lingual tonsil. This spot will be found to be where it can rub on the epiglottis or on one of the faucial tonsils. Contact of spots usually not in touch with each other in the throat always causes some disturbance of feeling, as is indicated by the feeling of the lump usually present in any enlargement of this tonsil. But sometimes the feeling is interpreted as a tickle which produces cough. The very contact keeps the parts irritated, and, when they become lacking in moisture, of course the friction is more severe. As stated in the anatomical remarks, the lingual tonsil possesses by virtue of its rich supply of blood-vessels possibilities of sudden enlargement by their becoming engorged, amounting to almost an erectile type. Granted now that by acute inflammation the tonsil is swollen and the parts are almost in contact, and the drying and irritating effects of mouth-breathing at night, or in going out, or perhaps mere emotion, suddenly send more blood to the parts. Immediately contact is established, and either or both of two results must ensue. If large surfaces come into contact by the swelling, the patient is con-

scious, sometimes painfully so, of a lump. If a small projecting spot suffers the distention, a small irritation ensues, the exasperating tickle, which continues in spite of everything the person can do, throwing him into convulsions of coughing, if the temperament is such, until by very exhaustion, or mayhap by the skilled physician's touch, the swelling reduces. Then as by magic the cough stops, and the patient dries his tear-stained face, wondering what could have made him have such a time, and he does not have another until those spots come together again; the intervals being short in acute cases, in chronic enlargement even days. If a cough is purely laryngeal, coughing and clearing the throat accomplish something in the way of stopping it. If bronchial, it stops by raising. When it is the lingual tonsil, coughing rather of the two aggravates the trouble. Sometimes, however, as stated, there is no help given the physician by the patient in locating the trouble; in fact, he may confuse him, for, as pointed out in speaking of chronic enlargement, there is sometimes an oppressive feeling produced by this trouble, which is referred to the chest. In the same way occasionally the patient will insist there is a tickle way down in the chest, when curiously enough an application to the lingual tonsil will remove the trouble. I suppose some reflex effect on the vagus explains this deception.

I have spoken at length of this one symptom, because the others of an acute trouble generally last but a day or two, but this one is present at the start, and lasts frequently for weeks afterward; in fact, distressing cough of this type may last for months following one of these attacks. The pain, as in other acute affections, is not always commensurate with the amount of local symptoms, and frequently streaks up toward the ears with each attempt at swallowing. Sometimes an intolerable heat or burning is complained of, which at intervals is very much worse. The feeling of a lump, which is so frequently present, is so strong that frequent and repeated attempts are made to swallow it away, or to hawk it up; each attempt, however, only adds to the pain. Loss of voice is very frequent, but is of a reflex type, fatigue being a prominent item. Often also talking produces pain. The constitutional symptoms amount to fully as much as an ordinary tonsillitis; the frequent occurrence of this variety of trouble in connection with attacks of *la grippe*, however, makes an estimate of the amount of prostration to be attributed to the local trouble very difficult.

The follicular variety, however, has much more fever, decidedly sharper local symptoms, and a quicker decline than the other variety, differing but little from it in the general history except that the pain and local symptoms frequently are closely dependent on the presence of the plugs of mucus in the crypts, and are immensely relieved by their removal. When the whole lingual tonsil is affected, there is a feeling of stiffness on the motion of the tongue. Several of this winter's cases

have shown a marked tendency to affect only a part at a time, and to relapse through two or three weeks, going from one part of the tonsil to another. Where this is the case there is frequently a crescendo in the type, so that I have imagined a very small abscess may have developed in the last spot affected, for the diminuendo has been as sharp as after a quinsy; but I have no absolute assurance. Except for a case of the relapsing type, the patients improve under a simple treatment, and in from three to six days are better of the pain and soreness, the cough, as before stated, frequently being troublesome for a much longer time.

When the peritonsillar infiltration becomes a feature of the trouble, the whole aspect is much more severe. If the extent of the tonsil involved be great, the whole tongue becomes swollen, oftener on one side, so that there is hardly room in the mouth for it. All motions are very difficult, and swallowing on the fifth or sixth day will become well-nigh impossible; although the necessity for it increases owing to the salivation. The epiglottis about this stage, if not before, has become involved, and the whole glottis may be dangerously cedematous. This swelling, aside from the threatening aspect as regards respiration, is very annoying in swallowing. The glands in the neck on one side are swollen; sometimes the entire neck in the hyoid region, and toward the angle of the jaw, will be protruding and hard. The tongue itself posteriorly has the hard, tense feeling to the finger which the palate has in ordinary quinsy. Sometimes also, as in the latter, the focus of pus can be distinctly felt as a soft, pulpy mass. Oftener, however, resorption takes place without this latter, and in the course of ten days or two weeks the patient recovers. In these cases, however, swallowing is a very serious symptom, and the lack of food and nutrition weakens the patient as in the other kind of quinsy. The cough in this variety is a most distressing symptom, for the pain it produces is agonizing. If the abscess opens spontaneously, or is lanced, there is immediate improvement, and rarely does the convalescence exceed a week thereafter.

The treatment of these various forms of lingual inflammation would divide itself into general and local, and the latter into measures carried out by the patient and by the physician. For the general treatment I have nothing further to say but that I am rather fond of trying to break up the inflammation at its beginning. Not succeeding, I always follow the initial medicines, where I have the least indication, with antirheumatics. I am sure they help us frequently to abridge the process. The first night I invariably use a Priesnitz poultice, otherwise nothing different is done than the usual systemic treatment of a tonsillitis.

Locally early in the treatment the patient may use cold, as pieces of ice held in the mouth; later these are also very comforting when the process is well advanced. Every two or three hours the patient is directed to gargle,



if the trouble has advanced, with milk and water, half and half, and as hot as can be borne, at least a glassful being used at once. This is followed immediately by half a glassful of water in which some alkaline preparation has been dissolved. I am accustomed to use potassium chlorate and borax together as being about as soothing and comforting as anything I can find. Between times, in the severer cases, the tedium of the distress in the throat is relieved by spraying with cold solutions of Seiler's tablets. Where the distressing cough comes into play, and, in the phlegmonous types, the swelling is intense, and there is inflammation of the glottis, steam inhalations must be adopted and used freely. The nourishment is, of course, bland, easily digestible, and mostly fluid. As often as I see the patient I apply to the inflamed areas, especially on the spots where I think contact exists, after thorough spraying with an alkaline solution, boro-glyceride, or, more strictly speaking, glycerite of boro-glyceride, and then insufflate directly on top of this a powder of tannin and morphine sulphate, the latter being in about the proportion of two and a half per cent. of the entire mass. An oily spray closes the performance. When serious congestion threatens, scarification of the tonsil gives some relief, as also do leeches applied externally in the hyoid region. If there is phlegmon present, and with it the usual oedema of the glottis, I freely incise the latter so as to let out the fluid. I also warn the patient of the danger of the swelling, and also of the liability of the abscess breaking and the matter getting into the larynx. Tracheotomy is sometimes a necessity. Unless it be to anesthetize the parts for the purpose of incision, etc., I do not ever feel justified in using cocaine, unless it is to make the patient more comfortable while taking some nourishment. Of course, if other parts of the throat are affected at the same time, there has to be something suitable done to them, but that may be considered as treated *pro re nata*.

Now, if not too weary, I will give a brief history of the last case of abscess of the lingual tonsil which I have had:

Mrs. D., aged thirty-five years, had been treated by her family physician for an ordinary tonsillitis of the faucial type, and which, having affected both tonsils—the right last—had got better. She went out one afternoon and was taken worse in the night, sent for her family physician the next morning, and he concluded from the symptoms that she had oedema of the larynx, and referred the case to me. I found the patient somewhat weak and anæmic from the previous illness, but evidently suffering no distress for want of breath. She was hoarse, but not aphonic. The temperature was normal, pulse rather rapid, but she did not make the impression of being a very sick patient. The examination showed the pharynx free from any membrane, the tonsils a trifle red, the right slightly more so than the left. The right arytenoid was very much enlarged and oedematous, the epiglottis not involved. The right vocal cord could not be seen on account of the swelling of the arytenoid

and processus vocalis, which was as large as a small-sized hazelnut. The swollen parts were immediately cocaineized and scarified; this latter was followed by a decided reduction in the swelling, and a great deal of relief to the patient, whose chief complaint was that it hurt her somewhat to swallow and she felt short of breath on exercise. Inhalations of steam and very hot gargles were immediately started. Examination of the urine showed existence of no kidney trouble. In the afternoon of the same day the left side of the larynx had become involved, and the whole glottis was considerably narrowed. The most swollen parts were again scarified, and the patient seemed again relieved. The treatment was made more vigorous, inhalations being taken as hot as the steam could possibly be borne, and were repeated every hour or two if the patient was not sleeping. The nurse was directed not to leave the bedside, and the patient was left for the night. In the morning the left arytenoid was swollen to twice the size that the right was at the beginning, and that side of the epiglottis had begun to be somewhat swollen and thickened. Scarification again relieved the swelling somewhat, and by afternoon the left arytenoid was smaller than the right. On the next day the right arytenoid had increased in size, and the epiglottic ligament was oedematous. The base of the tongue, the lingual tonsil, which had before not attracted my attention, was considerably swollen and very much reddened, and the palato-epiglottic fold was also reddened and enlarged. Numerous and deep punctures were made, those on the oedematous parts to relieve the serum, and on the tongue to let a little blood. The difficulty in swallowing was now a very important item; it was almost impossible for the patient to swallow half a teaspoonful at a time. Coughing was intensely painful, the pain streaking by all motions of the throat up into the ear. The status on the next day remained about the same; there was no fever, and the constitutional symptoms were in no way troublesome, except from lack of nutrition. But a very slight improvement was noted for the next three days, during which time only one puncture of the epiglottis was done. A constant ache was felt in the parts at the side of the neck, but other than that if the patient was quiet she did not suffer. On the ninth day the improvement, however, was distinctly evident, although there was still a great deal of swelling in all the parts previously mentioned, and even on the left side of the larynx the swelling persisted. From then on until the fifteenth day, although the swelling did not leave the right side of the larynx at all, the patient felt very much less pain, could swallow with greater ease, got in considerable semi-solid food, and felt better all round. I was very much at a loss to explain the continuance of the infiltration of the right side of the glottis. On the morning of the following day she complained that in the night she suddenly had become voiceless, during all the previous time having spoken in a perfectly clear voice, but not loudly. The aphonia seemed to be due to an increase in the size of the right arytenoid. A slight pricking did not seem to relieve it at all. The patient remained in this condition in spite of all the treatment we could think of until the twentieth day, when she complained of feeling sick. The throat suddenly became very much sorer to swallow, so that she had almost as much difficulty as she had had on the fourth and fifth day. The aryteno-epiglottic fold and the palato-epiglottic fold became very much swollen. The base of the tongue distinctly projected, and the space between the edge of the epiglottis and

the right base of the tongue was almost obliterated. The tenderness was extreme. Externally over the cornu of the hyoid bone a distinct swelling appeared and became extremely tender. On the following day the patient was worse even than the day before, the swelling in the neck had increased to double the size, the voice was a mere whisper, and from the swelling internally it was thought that an abscess was developing near the base of the epiglottis. We applied poultices externally, and everything internally as hot as could be borne. In the evening a deep puncture was made into the most swollen area, but failed to give any relief or let out any pus. The next day the status was exactly the same, except that nothing had been swallowed for twenty-four hours and the patient was extremely prostrated. Even at this time the patient had only developed a temperature of 100°. The swelling of the parts internally was fully as great as before, but even at this stage did not cause the tongue to protrude at all, and was not accompanied by any increase in the swelling of the parts around the entrance to the larynx; the tongue could also be used with perfect comfort in talking. By evening the external swelling had become as large as a good-sized hen's egg. Another attempt was made to find the abscess cavity, but was unsuccessful. On the next morning the patient reported that up till two o'clock that night she had had no sleep. A dose of morphine, however, had finally taken effect, and she went to sleep. On awakening she found herself very much relieved, could talk audibly, and could swallow without one tenth part of the pain she had had before sleeping. Examination showed a rupture had taken place at the point where the last puncture was made, and the swelling, both internally and externally, had become very much less. From then on the convalescence of the patient was rapid and uneventful, and by the tenth day thereafter the throat was practically well.

## BLOOD DIAGNOSIS.

### AND SOME OF THE

#### MOST IMPORTANT ADVANCES IN THE STUDY OF BLOOD.\*

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It is since the forties that, together with the development of microscopy and physiological chemistry, the modern study of blood has originated. In the last ten years it has progressed so rapidly that we can look upon our present standpoint with satisfaction, and may expect in the near future a further amplification of our knowledge. We are able to diagnose from the blood a number of distinct diseases; often therapy and prognosis depend altogether upon an examination of the blood, and perhaps we shall succeed in time in establishing tables of blood diagnosis that will enable every physician to recognize not only the special diseases of the blood and malarial infection, but also other diseases due to protozoa, perhaps even measles, scarlet fever, and carcinoma. At present, it is true, the conditions are too complicated, and he will certainly be a great pathologist

who shall bring harmony into the chaos in which we find hæmatology at present.

Blood is an alkaline fluid, consisting of a liquid, plasma, and of solid elements, red and white blood-cells and blood plaques, suspended in it. For an ordinary examination, we need about six drops of blood, which are best obtained by pricking the finger with a broad needle. Of this we employ one drop for a fresh microscopical examination, one for determining the relative and absolute number of red and white blood-cells, one for making from four to six cover-glass preparations, and a few for estimating the amount of hæmoglobin. The examination of the fresh blood is just as important as its staining. Even macroscopically grave changes may be recognized by the coloration of a drop of blood; the power of coagulation may also be judged. If we look with the microscope at a drop of blood under a cover glass, we can, from the size, shape, color, etc., of the red and partly the white blood-corpuscles, draw a conclusion as to whether, for instance, we have to deal with a distinct case of leucæmia or grave anæmia or malarial disease. We may judge of the intensity of an anæmia by the degree of poikilocytosis.

The blood plaques are also to be considered, for in fever and other diseases they are always diminished. Their number is, according to Engel, in an inverse proportion to the number of leucocytes. Coagulation occurs before our eyes; we can see the fibrin filaments form. The red blood-cells soon form the well-known rouleaux; should this phenomenon occur only slowly or incompletely, or should it be absent altogether, we may be sure of having a grave disease of the blood before us. The size of the red blood-corpuscles is best measured in a fresh preparation. They differ considerably in size—in anæmia they have an average diameter of 6  $\mu$ : in a state of congestion, usually one of from 8 to 8½  $\mu$ . According to Limbeck, the red blood-cell in an artery is about one tenth of a diameter larger than that in a vein, from the absorption of oxygen, as he supposes. To me it seems much more probable that this is dependent rather upon the difference of the salty constituents or of the kind of salts in arterial and venous blood. An interesting experiment upon fresh blood is the determination of the resistance of the red corpuscles. This depends upon the facts that the red blood cells retain their hæmoglobin in serum and physiological salt solution, and that they yield their coloring matter to thinner salt solutions and distilled water. Very resisting blood-cells retain their hæmoglobin even in a four-per-cent. solution of salt, whereas weaker ones lose it in five-per-cent. solutions. The indifferent solutions are called isotonic.

The estimation of the blood-corpuscles by means of the Thoma-Zeiss camera is a method of investigation which, if carefully executed, gives very exact results. The older apparatus, such as those of Hayem, Gowers, and Malassez, have been more or less replaced by that of Zeiss.

\* Read at the scientific meeting of the German Hospital and Dispensary Staff, February 18, 1906.

I myself have no experience with any other. The principle which most of the gentlemen are acquainted with is very simple. In a pipette we dilute the blood one hundred times, count the sum of red and white blood-corpuscles in a measured volume of this mixture, and from this compute the number of morphotic elements in a cubic centimetre. The sources of error of this method have been discussed in a monograph by Reinert. It is most important that, in taking the blood, no pressure be exerted upon the finger, as otherwise lymph will exude from the wound, thereby diminishing the absolute number of red blood-corpuscles by from ten to twenty per cent. Alferow has photographed the blood-corpuscles, and thereby materially facilitated the counting. For general practice these and other more complicated methods are unsuitable. Eisholz has introduced a method of counting the leucocytes which, according to my experience, gives good results. Blood is sucked into the pipette up to the mark 1, then half of the bulb is filled with a watery solution of eosin-glycerin, and the rest of the bulb to the mark 101 with a solution of gentian violet. The red blood-corpuscles are dissolved by the glycerin, whereas the leucocytes take a differential stain, so that we obtain not only the absolute, but also the relative number of the different leucocytes.

Within a few years an instrument has appeared as a rival to the Thoma-Zeiss method, called the *hæmatocrite*. This was constructed according to the idea of Hedin, modified later by Gartner. This apparatus consists of a centrifugal machine in which two graduated capillary tubes filled with diluted blood are centrifugalized. These are graduated so as to allow the reading of differences of a hundred thousand red blood-cells. In the last few years several objections have been raised against the apparatus. The results, according to Friedheim, bear no relation either to the amount of hæmoglobin, or to the actual counting, or to the specific gravity, but are rather dependent upon the individual volume of blood-corpuscles. This varies in each individual, and changes, as Koppe has shown, with the degree of swelling of the blood discs. Although it must be conceded that the *hæmatocrite* is not very reliable in its results, yet Leopold Bleibtreu seems to me to be rather abrupt in his judgment in declaring it absolutely without value, and in wishing that it may rapidly disappear from medical laboratories. To me it seems to be sometimes of value to determine the volumes of the red and white blood-cells, and we can certainly draw at least preliminary conclusions from it. I have frequently used the centrifugal machine for separating the leucocytes from the blood. This method is almost indispensable, both for the examination of fixed leucocytes and for obtaining living ones for physiological experiments.

The average number of red blood-corpuscles in a cubic millimetre is estimated at 5,000,000. Women have rather fewer men somewhat more, the newly born usually about 6,000,000. The highest numbers—8,000,000 to

9,000,000—have been observed in congenital stenosis of the pulmonary artery (Bannholzer), the lowest—150,000—in pernicious anæmia (Quincke). The relation of the white to the red blood-corpuscles was given formerly as 1:300 to 600, now as 1:400 to 800, so that numbers below 400 and above 11,000 in a cubic millimetre are no longer to be considered as normal (Halla). Stricker fixes the maximum of the normal at 20,000.

The examination of the fixed cover-glass preparations has been perfected by more recent investigators, especially Ehrlich. The fixing serves to retain the shape of the cells, the granulations of the protoplasm, the structure of the nuclei, and the hæmoglobin. The latter is easily soluble, and is quickly extracted from the red blood-cell as soon as the protecting stroma has been altered. The surest way of fixing the hæmoglobin consists, according to Ehrlich, in long-continued heating up to 115° to 120° C. (in the hot-air stove or on a copper plate). The complicated albumins that are present as granules in the white blood-corpuscles are also fixed in such a manner that in staining they dissolve neither in the protoplasm of the cell body nor in the various fluids. The nuclear structure is also well preserved by the heat. Other fixing media are sublimate alcohol, alcohol and ether (equal parts), or a four-per-cent. solution of formaldehyde. Recently a mixture of one cubic centimetre of formalin and nine cubic centimetres of alcohol has been recommended. This mixture fixes in one minute, and the preparations are directly brought into the staining fluid. Ehrlich's dry method accomplishes at least just as much as the theoretically more correct method of fixing the blood in coagulating solutions, such as Flemming's chromosmioacetic acid, and subsequent imbedding and cutting.

We will now consider the blood-corpuscles separately, and commence with the red ones. Of the red blood-cells we distinguish those with and those without nuclei. Those without nuclei are called "cytes" by Ehrlich, the nucleated ones "blasts." To the "cytes" belong the erythrocytes, the normal ones; then the pathological forms, microcytes, macrocytes, giantocytes, according to their size, and poikilocytes according to their shape. The "blasts" are divided by Ehrlich into normoblasts (nucleated red blood-cells of normal size), microblasts, megaloblasts, and giantoblasts, and, if of irregular form, poikiloblasts. About the occurrence of the various forms we can briefly state the following: The erythrocytes are the elements of normal blood; microcytes are found in all diseased conditions of the blood, with anæmia regularly, in great numbers; they are absent, however, in chlorosis. Poikilocytes, as well as macrocytes and giantocytes, are always present in grave anæmias. Nucleated red blood-cells do not occur in the normal adult. With secondary anæmias we find usually only normoblasts; with primary anæmia, and especially its graver forms, the megaloblasts, giantoblasts, and poikiloblasts appear. In grave consti-



tutional diseases the red blood-cells are sometimes polychromatophile—i. e., they stain partly with acid, partly with basic dyes—a condition that is explained by some authors as a necrobiosis of the erythrocytes.

The leucocytes have been divided according to various principles. Usually they are distinguished according to the form of the nucleus and according to their size. We have (1) uninuclear leucocytes, including the small and large lymphocytes and the *cellules médullaires* of Cornil (2) polymorphously nucleated ones, and (3) multinuclear leucocytes. Of the uninuclear, the small lymphocytes are about as large as a red blood-cell, the large ones of twice the size, and both have a nucleus staining deeply with basic dyes. The nucleus of the *Markzellen*, on the other hand, has very little affinity for stains. The polymorphously nucleated leucocytes have a nucleus rich in chromatin and elongated, but narrow. This allows the cell to pass through the smallest openings. If this elongated nucleus divides into several nuclei also deeply tinged, we get a multinuclear leucocyte. Another method of classification is founded, according to Ehrlich, upon the granulation of the protoplasm. He found in many white blood-corpuscles granular albuminous substances that are chemically different from the protoplasm of the cell. These, according to their reactions, he divided into five groups, and called them the  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ , and  $\epsilon$  granulations. According to more recent researches, the  $\beta$  and  $\delta$  granulations have been dropped, and we distinguish three kinds, according to their affinity for stains—acidophile, basophile, and neutrophile granules. We recognize the acidophile granules by the fact that, from a mixture of an acid and a basic aniline dye—e. g., eosin and methylene blue—they take up the acid one, whereas the basophiles stain with the basic one—e. g., methylene blue. The neutrophile granules, which would more correctly be called neutralophile, stain with the neutral salts of the aniline dyes and with neutral mixtures of acid and basic stains. Thus, a mixture of acid fuchsin and methylene green will tinge the neutrophile granules brownish red. In passing, we will remark that albuminates react toward acid, nucleins toward basic aniline dyes—i. e., albumin behaves like a base, the nuclear substance like an acid.

Practical medicine has unfortunately not gained very much by these color reactions. According to Arnold, a functional significance is to be accorded to the granules, but we can not judge of the origin of the particular cell by the kind of granulation. According to Zenoni, the granules may change in the blood from one form to the other.

Among the granulations, the acidophile especially has awakened great interest. The eosinophile cells occur in normal blood, and average one to five per cent. of the leucocytes. According to Swerschenski, Limbeck, and others, they are increased before an attack of asthma, and appear in the sputum. After the attack they are to be found only sparingly in the blood, whereas the neu-

trophile cells are increased. In malignant lymphoma we find them in great masses; in leucæmia their number is variable. A year ago I found in a leucæmic patient that nearly thirty per cent. of all the leucocytes showed eosinophile granulations; it is now several months since they disappeared and were replaced by non-granular and neutrophile *Markzellen*. Harmssen found in the blood of non-inflammatory hæmothorax, six days after an injury, almost exclusively eosinophile multinuclear cells. This would show that the eosinophile substance may be brought into some relation with hæmoglobin, all the more since Barker has shown in it the presence of iron.

As to the function of the granules, some light is thrown upon it by the paper of Martin Hahn, of Munich. Hankin and Kanthak have asserted that the antiseptic principle of the blood—alexin—is derived from the pseudo-eosinophile cells. Hahn was able to show that alexin was a nuclein derivative, and that it was secreted by living leucocytes, probably of the neutrophile variety. Increase of these leucocytes means also an increase of the antiseptic power of the blood. Pawlowsky succeeded in immunizing rabbits against infection by pneumococci, by exciting leucocytosis by means of injecting papayotin. Loewy and Richter obtained the same results by injecting spermine. If the results of Hahn are confirmed, it remains to be shown which leucocytes contain most of the costly substance alexin. Then the insurance companies will not only look for albumin and sugar, but also for the bactericidal cells of the blood.

A comprehension of the various cell forms named above is only possible if their genesis is known. In the embryo, blood is made long before spleen, lymph glands, and bone marrow have become distinct. At first, large multinuclear cells rich in hæmoglobin are found, from which partly vessels, partly the so-called metrocytes (Engel), are developed. The metrocytes multiply by mitosis, and divide finally into an erythrocyte of the first degree (a megalocyte) and a megaloblast. The latter, again, divides into an ordinary erythrocyte and a nucleated cell, called an erythroblast, or leucoblast, according to whether hæmoglobin is present in the plasma or not. This cell, however, may also disintegrate at once and form a collection of blood plaques. These I, together with Howell, consider as the fragmented nuclei of leucocytes. Lowitt declares them to be precipitated globulin; Bouchet calls them the building stones of the red blood-cells. Mondino and Sala assert that the blood plaques multiply by karyokinesis. The leucocytes develop later in the embryo than the red blood-cells. They originate in the lymph-forming organs which Ziegler designates as parts of the mesenchyme with an embryonal character. The leucocytes, with the exception of the multinuclear, probably belong to the lymph, and are found in the blood as well as in some other organs. In the adult blood-formation goes on in the same way as in the embryo, with the exception that the ery-

throcytes are primarily developed from the bone marrow, secondarily from the spleen. I am sorry that I must refrain from entering upon other theories of the genesis of blood. From this it will be clear that the diseases of the organs forming the erythrocytes are to be strictly distinguished from those of the organs generating the leucocytes. How the different pathological conditions are to be classified as underproduction or overproduction on the part of the blood-forming organs we are as yet unable to decide; and we must not attribute all anomalies of blood composition to these organs. A primary change in the blood may produce an increased destruction of white or red blood-corpuscles. This, again, by charging the blood with the products of destruction, especially of the white blood-cells, would excite an increased formation of leucocytes. The relative number of blood-corpuscles in normal blood seems to be maintained by the fact that destruction and new formation bear an intimate relation to one another. If many leucocytes die, the plasma will contain many nuclein acids and bases, which again are the best means to increase the number of leucocytes threefold in a few hours. If many red ones are destroyed, or oxidation is lessened, a need for oxygen will arise in the bone marrow, and with this perhaps a stimulus to cell division, for the generation of erythrocytes is inversely proportional to the amount of oxygen in the air. Jaruntowski and Schroeder, Mercier, and other authors have carefully studied the relation of the number of blood-corpuscles to the elevation. The higher the latter, the greater the first. A few hundred metres (corresponding to a drop of three and a half to four millimetres of mercury) make an appreciable difference in the number of blood-corpuscles. An artificial lowering of the atmospheric pressure by eighty millimetres produced in animals an increase of seventeen per cent. of the number of red blood-cells and an increase of twenty-five per cent. of the amount of hæmoglobin. If you consider that on the sea level variations of the barometer of sixty to seventy millimetres of mercury are possible, you must assent if I assume that the number of erythrocytes always varies considerably with the barometer. Even if the differences amount only to from three to ten per cent., yet they must make themselves felt, and they explain perhaps the feeling of malaise that many people experience when the barometer falls—an increased need of oxygen of the tissue cells, and consequently an abnormal irritability of the ganglia.

If we consider the blood from a chemical standpoint, we must always keep in mind that all the tissues of the body are permeated by this vital fluid, and that every organ contributes its share to the composition of the fluid blood. Therefore any functional disturbance of a single organ will, to a very great extent, change the constituent parts of the blood. Thus it is evident that diseases of the liver, lungs, kidneys, heart, and digestive organs have a most powerful influence on the blood.

The plasma—i. e., the fluid blood—consists of serum and a fibrinogen substance. Unfortunately, the time at our disposal precludes a consideration of the minutiae of the blood, and I must therefore refrain from a consideration of the pathological admixtures, such as those of bile acids, bile pigments, sugar, glycogen, urea, uric acid, etc. Besides being present in serum, glycogen has been found in leucocytes, and, according to Livierato, quite frequently in pneumonia. In chronic diseases the amount of albumin in the serum is proportionate to the nutritive changes of the body; the poorer the nutrition, the less will be the amount of albumin. The latter is, however, increased in all acute febrile diseases. But in practice the determination of the amount of albumin is a process altogether too complicated to be of immediate diagnostic aid.

The most important of all chemical blood examinations is the determination of the percentage of hæmoglobin. The earlier methods are antiquated (Hayem, Bizzozero), and only the apparatus of Fleischl, that of Gowers, and perhaps that of Henoque remain in use. There is no lack of careful and minute articles on the methods of ascertaining the percentage of hæmoglobin. Most authors give preference to Fleischl's apparatus; not a few, however, such as Lederer, Osterspey, Noorden, and Honigmann, recognize Gowers's apparatus. I myself am in the habit of using Gowers's hæmoglobinometer, and I believe the sources of error are not much greater than in Fleischl's apparatus. The hæmatoscope of Henoque permits not only of a direct reading off of the specific gravity, but also of a spectroscopic determination, which to an experienced eye will perhaps yield the best results. The apparatus has furthermore the advantage that any modifications of the hæmoglobin, the reduced hæmoglobin, and methæmoglobin will be recognized. I shall at this time not enter upon any more detailed account, but proceed to the determination of the specific gravity. Stintzing has given a practical and pretty exact method. He places about five drops of blood on small glass plates of a known weight, and with an accurately fitting cover. He then weighs the drops of blood while fresh, and again after drying for twenty-four hours. From the difference in weight he determines the amount of water. In the same manner the specific gravity of the serum is determined after obtaining the pure serum by means of centrifugalizing blood which has been deprived of its fibrin. Normal blood contains seventy-eight to seventy-nine per cent. of water; pathological blood up to ninety per cent. In chlorosis and leucæmia the solid residue is less diminished than in anæmia. It is noteworthy that in healthy individuals an abundant consumption of water has hardly any influence on the specific gravity of the blood. The majority of authors entertain, in opposition to Schmalz, the opinion that albumin, hæmoglobin, and the amount of water are by no means always in the same proportions to each other, so that no inferences can be drawn from one to



the other. The comparative examinations thus far made will probably in the near future enable us to compile tables by means of which the chemist will be in a position to diagnose certain blood diseases. Thus a fundamental difference between chlorosis and simple anæmia becomes manifest by the fact that in chlorosis, with sixty per cent. of hæmoglobin, there exists considerably more solid residue than in anæmia with the same amount of hæmoglobin. In chlorosis the blood contains more red blood-cells than in anæmia with the same amount of hæmoglobin.

The methods of the quantitative determination of the alkalinity of the blood have lately been subjected by Loewy to thorough investigation. He finds that titrations yield unreliable results, inasmuch as the chemical union of the acid and the bases contained in the blood-cells takes place too slowly. He therefore first renders the blood lake-colored by means of glycerin. The most difficult task is to recognize when sufficient of the reagent has been added to produce the desired reaction. In this connection the method employed by George W. Jacoby and myself is perhaps the easiest. The method has been described in Pfüger's *Archiv*. In uræmia, cholera, and poisoning by acids the alkalinity of the blood is considerably diminished. In sulphuric-acid poisoning the reaction of the blood is even said to become acid.

The study of the coagulability of the blood affords us an insight into one of the most important vital processes. Owing to the labors of Kossel and his pupils, the study of this subject has made great progress. In the year 1892 Alexander Schmidt compiled a work on the study of the blood to which he had devoted his whole lifetime. In this work he modifies considerably his old theory. His new doctrine is so complicated that it is almost incomprehensible. Schmidt has since died, but he lived long enough to witness the tottering of the beautiful structure which he had raised, and he became a silent spectator of the entirely different and happy inroads made by younger investigators. Since his death a further addition to the study of the blood has been published, embodying many interesting ideas, but nothing specially new. The creators of the new and probably lasting doctrine of the coagulability of the blood are Hammarsten, Arthus and Pages, Pekelharing, Kossel, and Lilienfeld. Hammarsten has shown that the fibrino-plastic substance is not essential to the coagulability of the blood, but that the fibrinogen ferment and a soluble calcium salt alone are essential. If the latter is precipitated by means of sodium oxalate, then, according to Arthus and Pages, the blood can not coagulate. Pekelharing found that the fibrin ferment was an organic combination of lime in which the lime had an affinity for the fibrinogen. The theory of Lilienfeld is as follows: The nuclei of the leucocytes contain a complicated albuminous body, nucleohiston, which is composed of a basic, peptonelike, albuminous body, histon, and an acid nucleoproteid, leuconuclein. The substance histon im-

pedes the coagulability, whereas leuconuclein induces it. If the leucocytes disintegrate, the acid leuconuclein becomes dissolved, and unites with the fibrinogen to form thrombosin. The latter forms in combination with lime salts the typical fibrin. Thus we see that fibrin is a combination of nuclein acid, fibrinogen, and lime. Out of the leuconuclein substances (the latter belong in the realm of the nuclein acids) are formed, after trivial chemical changes, the xanthin bases. These are the forerunners of uric acid. Neusser has been able to demonstrate these xanthin bases in the blood of gouty patients. He found numerous uninuclear lymphocytes with basic granules, and he considers these granules to be the disintegrated products of the nuclein. On account of this, and especially on account of the experiments conducted by Richter, the theory of gout has assumed a different aspect. Horbaczewski's theory, which considers uric acid to result from the disintegration of leucocyte granules, seems to be confirmed. Weintraud was enabled to support this theory in a most beautiful manner. He gave a man two pounds of thymus a day (the thymus contains a considerable amount of nuclein), and he observed that the amount of uric acid rose from half a grain (normal) to two grains and a half a day. The number of leucocytes was in this case not correspondingly increased.

Let us consider more carefully the various diseases whose diagnosis and prognosis depend upon an examination of the blood, or which can at least be influenced by it. I have reference to anæmia, leucocytosis, leucæmia, and diseases showing specific blood parasites.

The various forms of anæmia may be caused by a primary diseased condition of the blood-forming organ, of the bone marrow, or by a diseased condition of any other organ which indirectly affects, by its nutritive disturbance, the activity of the bone marrow; or the disease may be produced by the destruction of the red blood-cells. If many of the latter are destroyed, then, according to well-established physiological laws, will their production be increased. Even a sort of compensatory hypertrophy of the bone marrow may be brought about. If this is the case, many immature forms of red blood-cells will enter the circulation. We then find in the blood these immature bodies in the form of macrocytes and microcytes, various erythroblasts, which exhibit at times mitosis—indeed, at times even giant cells containing hæmoglobin. These forms are signs of regenerative attempts; we are, however, by no means in a position to infer from these forms the kind of anæmia that exists. All they indicate is the degree of anæmia. In slight anæmia they are almost entirely absent, so that we can regard only the diminution of the hæmoglobin and of the number of red blood-cells as a general characteristic of anæmic blood.

As regards the various forms of anæmia, Hofmann distinguishes anæmia caused by hæmorrhage, anæmia caused by inanition, chlorosis, and primary pernicious



anæmia. In acute anæmia caused by hæmorrhage the regenerative changes are absent. We simply find a diminution in the amount of hæmoglobin and the number of erythrocytes. This circumstance might be made use of in forensic medicine. Anæmia of inanition admits, unfortunately, of no distinction from anæmia caused by nutritive disturbances. Many attempts have been made to discover microscopical and chemical differences in the blood in cases of anæmia secondary to carcinoma, tuberculosis, and kidney and intestinal diseases. Few facts, however, are to be regarded as definite. Ziemssen finds in chronic parenchymatous nephritis the amount of hæmoglobin always considerably diminished; in chronic interstitial nephritis, however, either normal or increased. In carcinoma ventriculi no increase of leucocytes is said to take place during digestion, whereas in ulcer ventriculi leucocytosis is never lacking. In tuberculosis without fever the blood is nearly normal; in carcinoma, however, the specific gravity, the albumin, and the amount of hæmoglobin, as well as the number of red blood-cells, are diminished. The behavior of the leucocytes in those forms of anæmia which we have mentioned is very variable. The number may be diminished; sometimes, however, there may also exist leucocytosis.

Chlorosis occupies a separate position. It is characterized in part by very pale and quite often somewhat small red blood-cells, hardly diminished in number, and in part by a relatively large diminution in the amount of hæmoglobin. The number of leucocytes is usually normal, and poikilocytosis is absent. Primary or so-called pernicious anæmia consists in extreme diminution of the amount of blood, and in extreme deterioration of the quality. The diagnosis of primary anæmia can not be made with certainty from an examination of the blood alone. Still, an impoverished condition of the relative elements of the blood, in the absence of changes in other organs, enables us to suspect the condition quite early. In true primary anæmia a small movable parasite has often been found in the blood in the form of a glöbule  $1\frac{1}{2}$   $\mu$  in diameter, called *Cercomonas globulus*.

We have yet to regard those diseased conditions of the blood in which an absolute increase of the leucocytes forms the most prominent feature—namely, leucocytosis and leucæmia. These two diseases differ fundamentally, and not in degree only. In the incipient stages leucæmia might be mistaken for leucocytosis, although the actual number of leucocytes usually decides the diagnosis. In leucocytosis we find 15,000—at the most 80,000—leucocytes; in leucæmia, from 50,000 to 400,000 and more. Still, the principal difference is to be attributed to the forms of the leucocytes. The multinuclear cells alone are increased to any appreciable extent in leucocytosis, whereas in leucæmia they occupy a subordinate place as compared with the so-called "Markzellen," which latter are absent from the blood under almost all other conditions.

Leucocytosis, according to my opinion, is always to be regarded as an actual increase of the multinuclear leucocytes circulating in the blood. Nevertheless, according to Goldscheider and Jacob, leucocytosis may be mistaken for transitory changes in the distribution of the leucocytes. These transitory changes in the number of leucocytes—for instance, after an injection of turpentine alcohol—are most probably accounted for by the supposition that these leucocytes remain in a certain isolated territory of the circulation. The seat of origin of the multinuclear cells is the bone marrow, in which they are always to be found in great numbers (Ehrlich, Zenoni). The sudden migration of these cells into the blood circulation seems to be dependent upon a nervous influence on the vessels of the bone marrow. Certain chemical products which enter the blood lead to a specially marked leucocytosis. Thus we find above all the albuminous bodies of the nuclein series and the poisons emitted by bacteria, such as ptomaines and toxalbumoses, creating a marked leucocytosis. Digestive leucocytosis is probably caused by an absorption of the digestive products, whereas in carcinoma leucocytosis will occur only when, through disintegration of a large number of cancer cells, nuclein products are reabsorbed. Whether the multinuclear cells which arise in the blood as a final product of the mature processes of lymphocytes are identical with those that have their origin in the bone marrow remains yet to be demonstrated. Both forms of leucocytes seem to exhibit neutrophile granules.

Limbeck and others have found that leucocytosis is especially prevalent in those infectious diseases which are accompanied by an exudate. This applies above all to purulent, and also to fibrinous, exudates. In the case of "croupous pneumonia" leucocytosis runs about parallel to the fever and spread of the local signs. The more marked the leucocytosis is in relation to the infiltration, the more favorable is the prognosis. With the beginning of the crisis, the number of leucocytes diminishes. If a relapse occurs, the number again increases. In the early stages of typhoid fever there is at times a slight leucocytosis; as a rule, however, the leucocytes are diminished in number as in malarial disease. It is therefore not difficult to distinguish from an examination of the blood between pyæmia and pneumonia, on the one hand, and typhoid and malarial fever on the other.

The study of leucæmia has lately been very much simplified by A. Fraenkel. He discards the old distinction between myelogenic, lymphatic, and splenic forms of leucæmia, for leucæmia is a general disease of the lymph-cell-forming organs, of the lymph apparatus, of the spleen, and of the bone marrow. He recognizes two forms of leucæmia—namely, lymphocythæmia and leucæmia with Cornil's *cellules médullaires*. True lymphocythæmia, as a rule, runs an acute course, but there are also acute forms with a preponderance of *cellules médullaires*. In the chronic forms the cells have time to become granular. Quite often there is a division of

the nuclei of the *cellules médullaires*—a process which is purely of a degenerative nature, and not at all concerned with the formation of multinuclear cells. The importance of the various cells becomes manifest in the following histological consideration: The lymph follicle consists of a pulp and a cortex. The pulp—Flemming's germinative area—is composed of large cells with large, slightly reticulated nuclei in continual active division. The cortex consists of smaller cells, with nuclei rich in delicate reticular network. These nuclei also exhibit many forms of karyokinesis. The former cells correspond to the so-called *cellules médullaires*, which are not at all concerned with the marrow. The latter are the more mature lymphocytes. Under the influence of the leucæmic toxins, they either obtain an excessive proliferation of the cortical cells, which will then flood the blood with lymphocytes, or else a proliferation of the cells of the germinative area. In the latter case the *cellules médullaires* will enter the blood. Highly interesting is the retrogression of leucæmia in septic infection. The examination may yield entirely negative results, so that only leucocytosis can be diagnosticated—i. e., the multinuclear leucocytes displace the uninuclear ones. After the infection has been successfully combated, then these leucæmic cells reappear. As the therapy is absolutely hopeless in these cases, the injection of toxins might be indicated in order to check the cell proliferation, the same as in sarcoma.

Owing to lack of time, I am obliged to abstain from a consideration of the bacteriological blood examination. Let us devote but a few words to Laveran's malaria plasmodia. They are found in the red corpuscles as pigmented protozoa in continual motion. In the stained specimen various forms may be recognized, and the several types of malarial disease distinguished accordingly. The patient ought not to receive any quinine before the examination is made. By means of thorough massage, the plasmodia are said to enter the circulation (Weir Mitchell, Jr.) They are most readily found in the splenic secretion. The examination for malaria plasmodia, unfortunately, consumes considerable time. This may serve as an excuse for administering quinine tentatively. Quinine diminishes the number of leucocytes, and has a deleterious effect upon diseases with leucocytosis. In those diseases it is contraindicated.

We may regard with great satisfaction the latest advances made in hæmatology, yet we must not for a moment lose sight of older investigators, who, with poorer equipments but great intellect, forty or fifty years ago, erected single pillars of this structure, whose completion concerns so many men even at the present time.

Virchow described leucæmia in 1845. His account of the cells is in such striking conformity to our modern ideas that I should like to quote a few sentences: "The cells which I had found were mostly colorless, granular cells, of various diameters. Some had apparently no

nucleus; instead of that, however, a large number of small granules in their interior [these latter we call at present eosinophile cells]. Others had a single round nucleus; others, again, had a flask-shaped nucleus or several nuclei. [The latter correspond to our multinuclear cells.] In some few cells smaller granules were found [neutrophile cells]." Even though Virchow did not use these names, he nevertheless recognized the difference between eosinophile, neutrophile, multinuclear, and uninuclear cells.

100 EAST FIFTY EIGHTH STREET.

## SOME POINTS IN THE TREATMENT OF IMPERMEABLE STRICTURE OF THE URETHRA.

ILLUSTRATED BY FOUR CASES.

REPORTED BY J. S. WIGHT, JR., M. D.,  
BROOKLYN.

SOME patients with stricture of the membranous urethra, fearing operation, neglect to seek the advice of the surgeon. When they are finally obliged to ask assistance, a careful examination shows the stricture to be impermeable. The following cases, operated on by Professor Wight at his clinic at the Long Island College Hospital during the session 1895-'96, will illustrate some points on the treatment of impermeable stricture:

CASE I.—John J., aged forty-two years, was admitted to the hospital October 28, 1895, suffering from retention of urine. At fourteen years of age he had gonorrhœa. For the last ten years he had had trouble in urinating and consulted no one till two days previous to admission to hospital, when his bladder had to be aspirated to give him relief. His physician sent him to the hospital. He was suffering exquisite pain in the hypogastrium, though his bladder was not much distended. No guide could be introduced and aspiration failed to draw off urine. He was given hot baths and later the urine dribbled away. He was given a grain of opium the next morning and another attempt made to enter the bladder, which failed. All subsequent attempts were equally unsuccessful. Perineal section was performed on November 6th, as follows: A lithotomy staff was passed to the stricture; an incision was made through the perineum to the beak of the staff; then a long, straight bistoury was used, cutting through the indurated tissue, along the line of the normal location of the urethra, till the point entered the neck of the bladder; a grooved director was passed through the incision into the bladder and the retained urine ran out; the finger of the surgeon was passed along the groove of the director into the bladder and the strictured portion dilated. Saline irrigation was then used, and a large catheter introduced into the bladder through the perineal wound and retained in position, dressings were applied, and the patient put to bed. Oozing was considerable till the next day, and the dressing had to be repeatedly changed. On the second day following the operation he was taken with severe chills and vomiting. The next day he had severe pain in the right gluteal region, with swelling and slight, deep fluctuation. An aspirating needle drew off a small quantity of bloody serum with escape of gas. That evening he was put under an anæsthetic and a free incision



made through the right gluteal muscles. There was considerable inflammation of the surrounding tissues with some foetid pus. The wound was washed out with a solution of bichloride of mercury and dressings applied. The next morning he was jaundiced and in collapse. He died at 9 A. M. of acute pyæmia. No autopsy was performed.

CASE II.—George C., aged thirty-two years, was admitted to the hospital November 8, 1895, suffering with retention of urine. He had gonorrhœa six years ago followed by stricture. Sounds were passed for a time, and being relieved he neglected further treatment until four years ago, when he had retention, and then the stricture was dilated. Though he had some difficulty in passing water, he saw no physician till six weeks prior to admission to the hospital. A guide was with difficulty passed into the bladder. The stricture again closed down tightly and he came to the hospital with the urine dribbling away from overdilatation. No guide could be introduced. He was given hot baths and put on a grain of opium a day. Three days later a small whalebone guide was passed through the stricture into the bladder. Two days later perineal section was performed, as in Case I. The bladder was allowed to drain through a catheter in the wound, and the dressing changed daily for the first week. The catheter was then taken out, and straight Nos. 15 to 20 American sounds passed through the perinæum into the bladder and also through the pendulous urethra. At the end of five days curved sounds were used. This was continued daily, patient passing less and less urine through the perineal opening till December 14th, when there was a small granulating surface left, and all the urine passed through the urethra. He left the hospital, and I saw him from time to time till the middle of March. I then passed a No. 19 American sound with ease. The wound was entirely healed and urination was painless and free.

CASE III.—Pat M., aged thirty-two years, was admitted to the hospital November 25th, suffering with retention of urine. He had gonorrhœa fifteen years ago. For the last two years he had urinated with difficulty and had learned to pass sounds on himself. About a year and a half ago an abscess formed in the perineum discharging through the urethra. On examination, the bladder was found to be greatly distended. A small whalebone guide was introduced into the bladder through a false passage. Perineal section was performed two days later, as in Case I. An abscess cavity was found in the perinæum, and passing through it and running toward the right ischial tuberosity into the bladder was the guide, which was left in during the operation. This was taken out, and the operation completed as in Case I. The next day the catheter came out and was put back with difficulty. This man was an epileptic, and when the catheter was taken out a week later, an attempt to pass sounds caused convulsions. It was not for several days, and until the opening had closed for an inch along the pendulous urethra, that he could in any way tolerate sounds. The opening into the bladder remained patent. I cocaineized the pendulous urethra and forced a straight sound through. The wound continued to granulate, but the convulsions prevented the proper use of sounds. He was finally anesthetized and a No. 20 American passed. He afterward submitted to their use with more regularity. The wound healed rather slowly, and he left the hospital January 14th, with only a very small sinus left in the perinæum.

CASE IV.—Mr. T., aged forty-five years, was admitted

to the hospital December 20, 1895, suffering with a retention of urine. He had had gonorrhœa seventeen years ago followed by stricture, which he had neglected. A small guide was passed, and the retained urine came away in a very fine stream giving relief. The guide was fastened in, but slipped out later, and all attempts to enter the bladder again were futile. Perineal section was done the next day, as in Case I. The patient was very weak, and it was necessary to hurry the operation, the point of the bistoury entering the neck of the bladder and urine escaping in five minutes from the time of the first incision. There were a number of strictures in the anterior urethra, which were cut with a narrow bistoury on a grooved director from the perineal wound so as to admit a No. 20 sound. A rubber catheter was placed in the pendulous urethra in addition to the one in the bladder. The catheter was removed from the pendulous urethra on the fourth day and straight sounds passed; the other was removed from the bladder at the end of a week and curved sounds passed. The wound healed slowly, and the patient deserted January 6, 1896, with very little urine passing through the perineal wound.

### THE TREATMENT OF SOME TRAUMATIC LESIONS OF KNEE JOINT.

By J. O'CONOR, M. A., M. D., B. CH., TRINITY COLLEGE, DUBLIN,  
SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

HEMARTHROSIS.—F. M., aged sixteen years, a groom, was admitted into the British Hospital on the 27th of February, 1896, suffering from a large swelling of the left knee-joint. Three days previously, while exercising a polo pony, he was thrown off and, falling on to some stones, received a contusion of the left knee; he was able to get up and limp home. His parents, seeing that the articulation was considerably swollen, applied cold-water dressings; the patient noticed that the pain was in no way proportionate to the amount of distention.

Two days later he was brought to the hospital; the leg was placed on a McIntyre splint, and, as the joint was considerably distended, aspiration was performed; two ounces of blood were withdrawn, but as the cannula became plugged with clots the joint could not be properly emptied.

On the following morning, as the distention was as much as before tapping, the skin having been thoroughly disinfected, chloroform was administered, and an incision an inch in length made parallel and half an inch internal to the inner border of the patella. On the capsule being opened some five ounces of blood gushed out, followed by clots; the index finger was introduced into the synovial pouch and many adherent clots detached, and removed by irrigation with a 1-in-40 warm carbolic lotion. A gauze drain was inserted and the wound dressed with iodoform gauze and sublimate wool.

First evening, temperature normal, no pain or discomfort. On the fourth day the dressings were changed and the drain removed, the joint appeared quite dry. On the seventh day three silkworm-gut sutures were inserted and the wound was closed; on the eighth day the patient moved his joint through an angle of forty-five degrees; while so doing, some synovial fluid escaped from the wound.

On the twelfth day voluntary movement beyond a right angle was possible without pain. On the fourteenth day the sutures were removed as they were caus-



ing some skin irritation. The patient was allowed out of bed on the nineteenth day and was walking about the garden twelve days later with a normal joint.

My reasons for operating were: First, the presence of such a large amount of clotting blood in the joint; secondly, a strong prejudice against allowing any accumulation of blood to remain in or about a wound, be it external or internal; and thirdly, the certainty that the operation could be carried out aseptically.

To young men entering the curriculum of life it is without doubt a handicap to leave a collection of clotting blood in their knee-joints in the hope that Nature may remove it; we know that the liquid portion probably may be absorbed, but we also know that clots tend to form adhesions, and thus the future utility of the limb runs a great risk of being permanently impaired.

Again, in those whose constitutions are below par, I consider early operation all the more imperative, for an enfeebled body means diminished vitality of the tissue cells, consequently a weakened home defense; a collection of stagnant blood or serum at the normal temperature of the human body provides an excellent medium for the cultivation of the lower forms of organic life; and pathogenic microbes possess the faculty of working their passage from outside, through the blood, to habitations that may be suitable for the propagation of their species; with these premises it may be, at any rate, logically concluded that the removal of the medium before the coccus arrives is expedient surgery.

In carrying out this object, two instruments are useless—a trocar and cannula; the latter is liable to get plugged with clots, then evacuation of even the fluid blood is impeded; fibrinous coagula in the recesses of the synovial pouch are not removed, as was shown in the above-cited case—nothing short of digital shifting sufficed; and when the fluid pressure within the joint is suddenly diminished, fresh hæmorrhage may take place from the ruptured capillaries; if so, we are left *in statu quo antes*.

An incision possesses the following advantages: Thorough elimination of all blood and clots; digital examination, whereby any adhering clots may be removed; the arrest of hæmorrhage, if necessary, by gauze packing, and rest is provided for the injured synovial membrane by a more prolonged drainage; also the over-stretched ligaments are afforded a chance of promptly and permanently contracting to the normal.

**FRACTURE OF THE PATELLA.**—During the past year I opened the knee-joint on four occasions in order to wire transverse fractures of the patella; in each instance the first thing noted was the large amount of blood clot present; next, the constant overlapping of the fragments by the torn prepatellar aponeurosis; and lastly, the amount of oozing that followed refreshing of the broken surfaces. The deductions that naturally followed were, that in all fractures of this bone there must be a considerable quantity of blood effused into the

joint—consequently, a great probability of many adhesions forming, if such an amount of clot is left; that any attempt to unite the fragments without removing the fibrous tissue that overhangs the broken surfaces must be futile so far as perfect bony union is concerned; and lastly, that the apposition brought about by wire sutures does not in all cases arrest the oozing from the revivified surfaces, and there is a chance, if drainage is not provided for, that a fresh collection may take place. Consequently, any operation undertaken for the adjustment of the fragments scientifically and practically necessitates evacuation of all blood and clots, excision of the overlapping fibrous tissue, and prevention by drainage of any subsequent accumulation. Lister's operation fulfills the first two requirements, but not the third, which is equally important, and is best effected by a loose roll of iodoform gauze. This drain may be left in with safety until the fourth day, and the wound united on the seventh by two or three silkworm-gut sutures.

I shall now briefly mention what I consider a most important detail in the after-treatment of traumatic injuries to this joint. A surgeon of such world-wide reputation as Mr. Watson Cheyne recommends early passive motion (I believe within the first week) in cases of fracture of the patella. I confess I have often puzzled over the rationale of such a practice, and I can not arrive at any other conclusion than that its object is to prevent blood clot forming adhesions; for with the limb extended and carefully bandaged on to a straight back splint, undue contraction of the flexors can not be apprehended; if a collection of serum or thickening of the synovial membrane is feared, I do not see how early movement is going to help; and it is presumed that no rheumatic, gouty, or other tendency is present. On the other hand, to start active motion (I use the word active, for I generally have found the muscles, laryngeal included, anything but passive) at a time when we know that bony union has not taken place, and when the traumatic irritation of the surrounding structures can not possibly have subsided, is, in my opinion, a dangerous performance, and likely to bring about the very things that are so essential to avoid—continuance and increase of inflammation, a parent of stiff joints. I think it might be laid down as a fairly safe rule, in the majority of cases of traumatic arthritis, that movement by the patient's own muscles should form the advance guard to any movements by the surgeon.

**ACUTE SYNOVITIS.**—T. T., aged thirty-eight years, stevedore, while working in a ship's hold on January 19, 1896, received a contusion of his right knee by a bag of maize falling on it; he immediately felt pain in the joint, but foolishly continued at his work until the 21st, when, owing to the swelling and pain, he could not stand it any longer. On the 29th of January he was admitted into the hospital. The joint was distended with fluid, patella floating, and he complained of pain on the slightest movement; calor well marked.

The limb was placed on a pillow, which was fixed by sand bags, and a Martin's elastic bandage applied; this treatment was continued for four days without any marked benefit. Three blisters of Scott's dressing and a splint were substituted, and this was continued for three weeks, at the end of which, tumor, dolor, and calor had disappeared; a few days later he was placed in an easy chair beside the bed, with an elastic bandage on the knee; as no relapse followed, five days later he was told to cautiously put his foot to the ground (of course, crutches having been provided). This he did; on the following morning the joint was found in the same condition as on the day of admission to hospital.

It was now determined to incise and drain; and the most scrupulous attention was paid to the disinfection of the limb, hands, instruments, etc. On the 9th of March an incision an inch and a half in length was made parallel to the inner border of the patella, over the most bulging spot, and three ounces of serum and synovial fluid were evacuated; the index finger was then introduced into the synovial pouch, and, as no very marked thickening of membrane was found, a few strands of iodoform gauze were inserted and iodoform gauze dressings applied.

As the temperature did not exceed 99° the dressings were not changed until the fourth day, when they were found soaked with synovial fluid; no pus; a gauze drain was again inserted. The wound was dressed daily for the following three days; by the eighth day all excessive secretion had ceased, and on this date the patient voluntarily and painlessly moved his joint through a right angle. On the thirteenth day four silkworm-gut sutures were inserted and the wound closed; these were removed on the twentieth day, as firm union had taken place; the splint was left off on the twenty-second day and he was allowed to sit up in a chair for one hour. On the twenty-fourth day he walked to the garden with the aid of two sticks; no swelling, pain, or heat followed; on the thirty-sixth day he walked out of the hospital without a limp, normal movement having been completely restored.

Since January 1st three other cases of synovitis of the knee have been treated in a similar manner with equally good results.

Splints, ice-bags, hot irons, blisters, leeches, etc., without doubt served surgery well at a time when pus followed the knife as surely as night follows day; but under the existing conditions of surgical cleanliness there can be no excuse for continuing their service beyond a limited period. And I should think there were very few surgeons who could conscientiously say that the long-continued expectant treatment of this affection was satisfactory, and that the ultimate results paid for the time lost. I will now take the liberty of quoting from Mr. Barker's most excellent treatise in Treves's *System of Surgery*. In describing the treatment of acute synovitis, this gentleman states:

"In many cases, too, where there is much tension from effusion, aspiration of the joint with a sterilized hollow needle is the readiest way of giving relief, and this should be done before the capsule and ligaments have been overstretched, and the synovial membrane permanently altered." Under prognosis: "But when the measure has been too long delayed the synovial

membrane becomes thickened and shrunken and has lost its elasticity and smooth surface, and the subsequent movements of the articulation are permanently impaired."

In this most able appeal for early surgical intervention I most heartily concur, but differ as to the method; for I consider a small incision with gauze drainage infinitely preferable to the use of a grooved needle. By the former no re-accumulation of fluid can take place, as sometimes happens after the latter; the synovial membrane can be examined, and, if any part of it should be very much thickened, it may be excised; rest is assured to the joint for as long as the surgeon chooses, whereas after aspirating it is in some cases only momentary; again, the puncture of a needle may in itself cause hemorrhage into the joint.

If this latter objection should appear far-fetched, let the unbeliever open up some of the wounds that he has just sutured, and he will be astonished at the amount of bleeding on the inner surface that occasionally follows the puncture of a needle, which, if untreated, furnishes a suitable nidus for a wandering microbe. And I think it may be truly said that the gauze drain is to the medium as Listerism to the germ and that the elimination of both germ and medium is an absolute aseptic necessity.

In conclusion, I feel convinced that we should be acting in a manner more becoming, both to our art and to the interests of our patients, if we would only consider ourselves above the sphere of criticism that may emanate from sources infected with septic superstitions, and open the joint in every case of simple traumatic synovitis, which had not yielded (disappearance of excessive fluid) to twenty-one days' thorough expectant treatment; by so doing, permanent thickening of the synovial membrane may be prevented, and many patients saved from having a weak knee for the rest of their lives.

In carrying out this simple operation the most scrupulous cleanliness must be adopted, and the routine which I now employ may serve, in some degree, as a guide to others. The day prior to operation the limb is shaved, scrubbed with soap, and hot soda water; then sponged with turpentine and a piece of antiseptic lint wrung out in 1-in-500 bichloride solution wrapped around the joint and fixed on for the night by sublimate wool and a bandage. The patient having been chloroformed, a nurse removes this dressing with a sterilized scissors and forceps. The field of operation is again sponged with turpentine and washed with 1-in-500 bichloride solution; the thigh and leg are enveloped in towels that have been boiled and soaked all night in 1-in-500 bichloride solution; the same are placed all round so that if an instrument is left down on the table it can not be infected. (All instruments are previously boiled.) The hands and arms having been scrubbed with soap and soda water, are placed for two minutes in a basin of Watson Cheyne's strong lotion. An incision from one to



two inches in length is made parallel to and half an inch internal to the inner side of the patella; as the structures are divided, all bleeding points are secured; when all oozing has ceased, the capsule is seized with a dissecting forceps and opened; two pressure forceps are applied, one on either side, to the cut edges of the capsule, with a flat sponge. External pressure is made directly over the synovial pouch; by this means all the fluid is gently squeezed out. The index finger is next inserted, and, if any thickened tags of synovial membrane are found, they are seized with a torsion forceps and excised. If any hæmorrhage follows this latter procedure a small sponge on a pressure forceps is introduced and direct pressure made; at the same time, external pressure with a large, flat sponge is carried out as before; in this way the bleeding is soon stopped. Three or four sterilized silkworm-gut sutures are inserted through the whole depth of the incision, including the capsule (by the forceps previously placed on the incised edges this can be accurately done); they are tied loosely, and ample space left for the introduction of a few strands of iodoform gauze into the synovial pouch. Iodoform is dusted freely all round and the dressing consists of iodoform gauze and sublimate wool. A McIntyre splint is applied; this is fixed above and below the wound with domette bandages.

The dressings and drain are removed every two days, and if on the seventh day the secretion of synovial fluid has decreased to normal, the edges are united by the silkworm-gut sutures already inserted. These are removed on the fourteenth day, and, if the union is firm, the patient is allowed out of bed on the sixteenth with instructions to daily increase the range of movement. No knee-cap or elastic bandages are applied; these can be profitably relegated to the limbo of unreliable trusses and fantastic pessaries.

In this age of asepticism, to sentence an unfortunate breadwinner to a term of two, four, or six months on splints or on the broad of his back, for water on the knee, is to my mind an unjustifiable and unsurgical procedure, and, as Mr. Arbuthnot Lane very tersely remarks, writing on the treatment of simple fractures, "The commercial value of a limb nowadays deserves the serious consideration of every surgeon."

As the struggle for existence became more keen, it seems as if Nature had risen to the occasion, and brought forth a Lister to propound the art of antiseptics, in order that the full physiological activity of wounded limbs might be so speedily restored that their owners might not be compelled to drop out of the race and become candidates for parish relief.

**The Fifteenth Annual Announcement of the New York Post-graduate Medical School and Hospital** has just been issued. It appears that five hundred and forty-two physicians have attended the courses at the institution during the past year, and that more than a thousand operations were performed in the hospital.

## Therapeutical Notes.

**Arsenic in the Treatment of Gastralgia.**—In the *Lancet* for July 4th Sir James Sawyer, M. D., of Birmingham, says: "Further observation in practice has confirmed my favorable opinion of the curative efficacy of arsenic in the various painful neuroses included under the name gastralgia. I have already laid before the profession my earlier experience in this subject. Romberg's well-known description of gastralgia is classical. He distinguished two forms of the malady—gastrodynia neuralgia, which he held to be hyperæsthesia of the gastric branches of the pneumogastric nerve, and neuralgia coeliaca, which he attributed to hyperæsthesia of the solar plexus. Clinical experience confirms the views of Niemeyer and of Henoch that this distinction is difficult and of doubtful utility in practice. Gastralgic affections, severe and slight, are rare in hospital practice, and frequent among private patients, especially in those of nervous temperament. I need scarcely observe that for obvious reasons the diagnosis of gastralgia is one which should neither be lightly made nor negligently maintained. But pain arising in the stomach when the organ is empty and relieved by the ingestion of food is almost diagnostic, as the late Dr. Wilson Fox taught, of its nervous nature and origin. With due regard to the causal concomitants and antecedents of gastralgia arsenic cures the disease. It is best to give the drug in a pilular form. I exhibit a twenty-fourth of a grain of arsenious acid made into a pill with two or three grains of some tonic vegetable extract, such as gentian, three times daily halfway between meals. Scarcely any other medicinal treatment is needed in cases of moderate severity and the use of the remedy should be continued for some weeks. In severer cases I use counter-irritation to the epigastrium of duly proportioned activity. I have usually found a full and varied dietary suit gastralgic patients far better than a restricted 'dyspeptic' regimen. It is in such cases that Trousseau's maxim is so true—that we should know what a patient does eat before we advise him upon what he may feed."

**Glycerin in Certain Affections of the Stomach.**—In the same article, Sir James Sawyer remarks that some years ago Dr. Sydney Ringer recommended the administration of glycerin by the mouth in certain affections of the stomach. Acting upon his suggestion, he has since treated many cases of painful gastric digestion, such as are usually attributed to subacute or chronic catarrh of the gastric mucous membrane, with glycerin with satisfactory results. So far as he has seen, this employment of glycerin is not widely extended in professional practice, and he has not noticed further reference to it in the periodicals. The familiar routine seems to be a ringing of changes upon bismuth, alkalies, acids, and digestives. Many cases of gastric maladies of the kind indicated yield to glycerin; he gives a drachm, a drachm and a half, and sometimes even two drachms, with a little of some simple bitter stomachic tincture, diluted to an ounce with water, thrice daily, between meals.

**A New Physician Extraordinary to the British Queen.**—The *Lancet* announces that Dr. Samuel Wilks has been appointed one of Her Britannic Majesty's physicians extraordinary.



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POTATO POISONING.

IN the July number of the *Centralblatt für die gesammte Therapie* there is a condensed account, from the *Archiv für experimentelle Pathologie und Pharmacologie* and the *Correspondenz-Blatt für schweizer Aerzte*, of an investigation into the proportion of solanine contained in potatoes under various circumstances. The inquiry was undertaken apropos of certain cases of poisoning among French and German soldiers attributed to potatoes. It seems that in 1892 three hundred and fifty-seven men of the garrison in Alsace were seized, one after another, with frontal headache, severe colicky pains in the stomach and bowels, vomiting, diarrhoea, prostration, and moderate stupor. In a few cases there were pallor of the face, blueness of the lips, great dilatation of the pupils, brief faintness, and acceleration of the pulse followed by its retardation. In the severer cases there was a rise of the temperature to from 101° to 103° F. In only one case was there collapse, and in that it was of brief duration. In the course of ten days all the men were well. Not long afterward ninety men of another garrison belonging to the same army corps were attacked with similar symptoms, and in 1893 a hundred and eighty-six men belonging to a battalion of infantry and to one company of another battalion were taken with vomiting and diarrhoea, together with great weakness, abdominal cramps, and pains in the back and limbs, but without dilatation of the pupils. Although the cases at first seemed severe, they all ended in speedy recovery. A few years before, the same symptoms had occurred in a division of the Lyons garrison and been attributed to eating bad potatoes. While it was chiefly new, unripe potatoes that were eaten in Alsace, the French soldiers ate old ones that were sprouting.

From the chemical investigation made to clear up these cases it appears that potatoes that are fresh and have not sprouted contain, from November to February, from 0.04 to 0.046 per cent. of solanine, and, when peeled, only from 0.02 to 0.025 per cent. Old potatoes that have sprouted, in the period from March to July,

may contain from 0.08 to 0.116 per cent. of solanine. When potatoes had been made to sprout artificially and the sprouts were about a tenth of an inch long the chemist found 0.212 per cent. of solanine. The alkaloid is especially plentiful in the sprouts themselves; in a sprout a third of an inch long he found about five per cent. of it, but it decreases with the growth of the sprout, so that in one a little over three inches long he found only 2.7 per cent. Especially significant were the examinations of spoiled potatoes. Those that were withered and softened were found to contain 0.144 per cent. of the alkaloid. In a piece a year old, black internally and beset with fungi, 1.34 per cent. of solanine was found. Sound potatoes containing 0.043 per cent. of solanine were inoculated with the fungous growths, and at the end of two months, although but few of the inoculations had proved effective, they were found to contain 0.08 per cent. of the alkaloid. The dwarf potatoes produced by sprouting in the cellar were found particularly rich in solanine, containing as much as 0.52 per cent. The conclusion was reached that potatoes must contain an exceptional proportion of solanine to be poisonous, and be old, withered, or sprouting.

THE RESUMPTION OF WORK AFTER PARTURITION.

THE Paris Society of Public Medicine and Professional Hygiene was lately fretted for the third time with the discussion of a proposition to seek for legislation restraining working women from resuming their occupation within less than four weeks after their confinement, or at least providing for their maintenance for that length of time at the public expense in case of need. M. Dion, who insisted on the measure, reminded his hearers that three years before a legislative committee had asked M. Pajot, the president of the Obstetrical Society, if it was dangerous for a woman to engage in an industrial occupation within four weeks after having given birth to a child, and the society had unanimously answered in the affirmative. M. Dion conceded that there would be difficulty in fixing the rate of indemnity, so only the following resolutions in general terms were submitted to the meeting: 1. That the public authorities should make provision for assuring to lying-in women a rest of four weeks before resuming industrial work. 2. A maternity fund should be created in each commune, to be maintained at the expense of both the commune and the nation.

M. Poitou-Duplessis, in the name of personal lib-

erty, violently opposed the idea of regulating such a matter by law, but M. Langlet, whose name is appended to the report of the meeting published in the *Presse médicale* for June 27th, suggests that the speaker must have forgotten that all measures of public hygiene necessarily rested on constant violation of individual liberty, and he gives as instances compulsory vaccination, the declaration of infectious diseases, and the enforcement of disinfection. The reporter further points out that M. Poitou-Duplessis was particularly unfortunate in holding up England as furnishing an example to be followed, for England was the first country to regulate labor by law in the interest of hygiene.

Another gentleman protested on different grounds. In his opinion, it was useless to insure a woman four weeks of rest after confinement; she should rest for two months before parturition and for at least six weeks after it. This proposition, says the reporter, being absolutely impracticable, can have had only one purpose, that of causing the vote to be adverse to every prophylactic measure. The report closes with the statements that the meeting was far from agreed on the subject and that the resolutions were passed by a bare majority.

Leaving entirely out of view the political and economic aspects of such a question, and they seem to us highly important, one may safely say that some such course as the resolutions favored would be of great value from the hygienic point of view. We are not prepared, however, to say that the period of four weeks' rest is either necessary in the majority of cases or sufficient in those in which it is really needed, but as a minimum requirement it would doubtless do some good.

### MINOR PARAGRAPHS.

#### A CONGENITAL CHORDA TENDINEA IN THE AORTA.

DR. RÖHRLE (*Deutsche medicinische Wochenschrift*, 1896, No. 17; *Deutsche Medizinal-Zeitung*, July 2, 1896), in the post-mortem examination of a child that had died of ileo-colitis at the age of two weeks, recently found a tense tendinous cord in the aorta. It arose from the junction of the left end of the left semilunar valve and the left end of the posterior semilunar valve, and extended to the junction of the left end of the right semilunar valve and the other end of the left semilunar valve. The reporter remarks that such an anomaly does not seem to have been described before.

#### "LE ET LES"

A STORY is going the rounds of the French journals to the effect that a Chinaman, being hard pressed for money, sat down and cut off "le et les," thereby making himself a cunuch. He sold "le et les" for nine francs,

or perhaps it would be more correct to say that he pawned them, for of course they had no intrinsic value, but were taken in the belief that their original owner would eventually seek to redeem them in order to present himself in the next world "complete." It is said that as large a sum as \$3,000 has been paid for the redemption of "le et les."

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 21, 1896:

DISEASES.	Week ending July 14		Week ending July 21	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	17	7	25	4
Scarlet fever.....	51	8	59	3
Cerebro-spinal meningitis...	6	4	3	5
Measles.....	194	14	151	11
Diphtheria.....	221	36	191	29
Tuberculosis.....	95	90	172	95

**A New Sanatorium in Ontario.**—Dr. Edward Playter, whose book on *Consumption* we lately noticed, has opened a new sanatorium, called Sydenham House, in Ottawa, also, at King's Plateau, in the Gatineau Hills, ten miles away, a branch known as Sydenham Cottage. The situation in the hills is described as being about midway between the Atlantic Ocean and the great lakes, more than a thousand feet above sea level, and with a dry, sunny, and most invigorating atmosphere. Dr. Playter announces that he will give special attention to the treatment of pulmonary consumption in its early stages, to the treatment of heart diseases by the Schott method, and to the cure of obstinate cases of rheumatism, neuroses, and other conditions that can not be managed to advantage at the patients' homes.

**A New Hospital in Springfield, Massachusetts.**—The House of Mercy hospital was opened for patients on July 14th. It has thirty beds and is in charge of the Sisters of Providence. While the gentlemen of the staff are all members of the Massachusetts Medical Society, paying patients in private rooms may be attended by their own physicians of any school. Dr. D. E. Keefe is president of the medical staff, and Dr. C. H. Calkins secretary.

**A Spurious Tokay.**—The *Deutsche Medizinal-Zeitung* quotes from the *Süddeutsche Apotheker-Zeitung* a statement to the effect that the Bavarian newspapers are warning their readers not to buy a so-called medicinal Tokay furnished by the Düsseldorf firm of Albert Fuchs & Co. An official examination has shown that this product has none of the distinctive features of genuine Tokay.

**Army Intelligence.**—Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 12 to July 18, 1896:

EWEN, CLARENCE, Major and Surgeon. The leave of absence on account of disability granted him is extended one month.

WORTHINGTON, JAMES C., Major and Surgeon. The extension of leave of absence on account of sickness granted him is further extended one month.

**Navy Intelligence.**—Changes in the Medical Corps of the United States Navy for the Week ending July 18, 1896:

DICKSON, S. H., Surgeon. Ordered to the U. S. Steamer Texas.

FARNHOLT, A., Assistant Surgeon. Detached from the U. S. Steamer Monterey and ordered to the Mare Island Hospital, California.

LARRIS, H. N. T., Passed Assistant Surgeon. Ordered to the Pensacola Navy Yard, Florida.

MOORE, J. M., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, and ordered to the U. S. Steamer Texas.

PERSONS, R. C., Surgeon. Orders to duty at the Naval Hospital are revoked, and he is ordered to continue on present duty.

#### Society Meetings for the Coming Week:

TUESDAY, *July 28th*: Richmond, Virginia, Academy of Medicine and Surgery; Medical Society of the County of Putnam (annual), N. Y.

WEDNESDAY, *July 30th*: American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.

THURSDAY, *July 30th*: New York Orthopædic Society; Pathological Society of Philadelphia.

### Births, Marriages, and Deaths.

#### Married.

ALDRICH—HART.—In the City of Lake Charles, Louisiana, on Wednesday, July 15th, Dr. R. H. Aldrich, of Baton Rouge, and Miss Gertrude Hart.

#### Died.

HOLDER.—In Memphis, Mississippi, on Wednesday, July 15th, Dr. A. B. Holder.

MACKENZIE.—In Negaunee, Michigan, on Monday, July 13th, Dr. A. C. Mackenzie.

RING.—In New Haven, on Friday, July 17th, Dr. Frank Whitman Ring, of New York, in the forty-eighth year of his age.

### Letters to the Editor.

#### MEDICAL EDUCATION IN ILLINOIS.

952 MILWAUKEE AVENUE, CHICAGO, July 13, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In your *Journal* of the 11th inst. I find an article by Dr. Daniel Morton, of St. Joseph, Mo., on the Future of Medical Colleges in the Smaller Cities of the United States, which I have read carefully.

One can not help but agree with the writer of the exhaustive article as regards his criticism of the defective medical education in this country in past years. His suggestion to establish "State examining boards" in all the States of the Union is probably the best solution to the perplexing question of medical education in this country.

The doctor's views on the superiority of medical colleges in large cities are not, however, quite in accordance with the facts. Allow me to state that upon careful investigation he will find in the city of Chicago, besides the three regular medical schools that maintain a high standard, a number of inferior evening colleges of medicine, the purpose of their existence being to defeat the spirit of the medical practice act, though they profess to comply with the letter of the law.

These evening colleges of medicine grant diplomas after an attendance varying from six months to four years, which the State board of health recognize. Upon the payment of five dollars and the presentation of such a diploma, the State board of health of Illinois grants applicants a license to practise medicine and surgery in the State of Illinois.

Dr. Morton in his article makes mention of the State

board of health of Illinois, under the leadership of Dr. John H. Rauch, as having been the pioneer in the regulation and control of medical practice in the United States, whose efforts resulted in the establishment in several States of the "diploma law." The deceased Dr. John H. Rauch, who was the secretary of the Illinois State board of health for several years, certainly well earned the esteem in which he was held by his brother physicians and all those who knew of him, for he was a man of integrity and honesty of purpose and an industrious worker in the interests of progress. He did more for the medical profession than a dozen State boards of health combined.

It is this very same State board of health—but now with another secretary—that enables colleges like the Harvey and Harvard night schools of medicine to do a thriving business by inducing young and middle-aged men and women to leave the workshop and the stockyards where they slaughter cattle, for the more remunerative occupation of slaughtering mankind.

But, it may be remarked, these men must produce evidence of preliminary education and comply with the other requirements of the law before they enter a medical school. As long as the enforcement of those rules rests with the school and not with the State board, the law is easily enough evaded. The Harvey night school of medicine is satisfied with a statement, made before a notary public, that the applicant has the necessary qualifications to study medicine, though his examination papers prove that he has not mastered the first rudiments of grammar, and words found in the First Reader are misspelled.

This school, as well as others of the same character in the city of Chicago, allows its students to work all day at their respective occupations, and exacts of them an attendance upon lectures three hours evenings, namely, from 7 to 10 P. M., although excuses of three months' absences are accepted.

As for clinics, they receive mention in the *Catalogue*, and students graduate without ever having seen a single capital operation at the college, there being no hospital connected with it, and but few dispensary clinics.

The facilities of the school are of the most limited kind. It is located on a floor and a half of an office building, where there are a dentist, a private dispensary of an advertising doctor, and a good-luck store. One can form an idea of what kind of material they can get up there for the benefit of evening students.

It is not hard to imagine what an amount of knowledge can be acquired by an untutored student, after having done a hard day's labor in the workshop, in three hours evenings, with such facilities for instruction. And yet the State board of health recognizes this school.

The secretary of the college sends circulars to factories and workshops offering to make doctors of all comers at the nominal fee of sixty-five dollars annually, to be paid during the year in installments of ten dollars a month.

In what a deplorable state of confusion must the medical education of such a student be when he graduates, and yet his diploma is equal before the law to that of his neighbor who is a graduate of a good medical college and who has spent years of study and undivided attention in the acquirement of the fundamental facts upon which the science and practice of our profession are based.

Two such manufactories of doctors are already recognized by the State board of health; a third one—a so-



called summer school, the Illinois School of Medicine—has been promised recognition next year.

Does this present such a bright picture for the future of medicine?

In the State of Illinois there are no recognized schools of midwifery. Every midwife must undergo a thorough examination before the examining board of the State. This means that the afflux of so-called midwives to the State is somewhat checked, as a large percentage of those applying for a license fail to pass their examination. Just now there is a movement afoot to recognize certain schools of midwifery and to do away with the State board examinations.

The present secretary of the State board of health is a warm supporter of that movement. Only a short time previous to this application for recognition—which will surely be granted—the previously mentioned Harvey night school of medicine established a branch school, the so-called Playfair School of Midwifery, in which male and female midwives are to be manufactured. Does this look very much like progress?

The remedy, of course, lies with the medical profession. As long as State boards are created by politicians only, and the regular profession ignored in the matter of selecting the members of those boards, so long will they respond to political and other influences and license quackery.

I am glad to know that several States of the Union have already established examining boards, and that the members of such boards are chosen from a list or lists presented to the governor of the respective State.

The foregoing was written with the hope of stimulating an expression of opinion on the part of those practitioners of medicine who have the progress of medicine at heart and who annually find themselves surrounded by their tailors, shoemakers, and grocery clerks, all ready to shake hands with them as colleagues in their peculiar transformation from shoemaker to doctor—and yet these very same physicians are prevented by a false sense of modesty from raising their voices against the frauds perpetrated against the public health and the medical profession in the name of law.

JULIUS GRINKER, M. D.

## Proceedings of Societies.

### AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Tenth Annual Meeting, held in Atlantic City, on Tuesday and Wednesday, June 2 and 3, 1896.*

The President, Dr. CLAUDIUS H. MASTIN, of Mobile, in the Chair.

**The President's Address.**—The speaker briefly reviewed the history of the association since its organization in 1886. He stated that during the past ten years great advances had been made in the field of genito-urinary diseases. The various organs which were comprised in its domain had been studied and thoroughly investigated. Our knowledge of their pathology and of the therapeutic measures required for their treatment had each been systematized. Our instruments of investigation had been improved and new ones had been

invented; the technics of our operations had been simplified and perfected. The kidney and the bladder, together with the organs of generation, had been opened up and illuminated; the hidden recesses of the entire system had been exposed to the eye, so that no longer were we groping in the dark, but, aided by all the means of modern research, our diagnosis of hitherto obscure troubles had been cleared of doubt. Some of the greatest minds of past ages had done much in the department of genito-urinary diseases, and through their investigations it had been recognized as of the greatest importance. The immortal John Hunter had understood its bearing upon scientific medicine, and indelibly impressed his great name upon the very keystone of modern pathology, the hard chancre. His researches in this line had blazed out the pathway of our present knowledge of syphilis.

**Five Cases of Rupture of the Urethra treated by External Urethrotomy and Suture.**—Dr. A. T. CABOT, of Boston, read a paper with this title. He stated that the intractable nature of traumatic stricture of the urethra was so well known that no apology was required for the following report of some cases in which an attempt had been made by immediate suture of the ruptured urethra to furnish accurate coaptation of the divided ends of the canal, and, by promoting rapid and smooth healing of the mucous membrane, to avoid the formation of stricture. Hitherto, the latter had been regarded as an inevitable consequence of a urethral rupture, and while in the fortunate cases of moderate severity the regular passage of a sound might keep the urethra permeable, neglect of this precaution might be expected to result in a rapid closure of the stricture. In other cases of greater severity the stricture showed a constant tendency to contract in spite of every effort to keep it open, and repeated operations were required to avert the serious consequences of a complete closure. Dr. Cabot then described five cases of traumatic rupture of the urethra which had been treated by immediate external urethrotomy and suture. In all the cases the immediate result of the operation had been good. In three of them the opportunity had been given for examination some years after any dilating instrument had been used. In two of these cases no stricture had been found and instruments as large as those which had been used immediately after the operation, or even larger, had slipped past the point of rupture with perfect ease. In one case, while no interference with urination had been noticed, a narrowing of the urethra had been found; this narrow point, however, had not been of a hard, cicatricial nature, but so soft and yielding that without the least exercise of force it had been rapidly dilated to a good size.

The conclusions of the author were as follows: 1. In every case of ruptured urethra, immediate perineal section, with suture of the urethra, should be practised. 2. By this procedure not only was the danger of urine infiltration and abscess greatly lessened, but in a large proportion of cases the prevention of the formation of close, intractable strictures might also be hoped for. 3. In the early operation, the search for the posterior end of the urethra was much easier than in the later. The hemorrhage from the branch of the artery of the bulb served as a guide to that end of the canal.

Dr. J. WILLIAM WHITE, of Philadelphia, said that he fully concurred with Dr. Cabot in the general principles laid down in his paper. There was another class of cases, however, in which it was sometimes difficult to decide just what procedure to follow—namely, cases of slight injury

in which there were practically no symptoms except a little hemorrhage and, perhaps, some perineal swelling. In a slight, partial rupture of this character, was the outlook from suturing any better than could be expected from the introduction and retention of a large-sized instrument and careful urinary antiseptics?

Dr. JOHN P. BRYSON, of St. Louis, said he was entirely in accord with the statement made by Dr. Cabot that an early operation was demanded in a case of traumatic rupture of the urethra. If it could be demonstrated that the lesion in the urethra was transverse or oblique, the indications were to open and suture it. In these cases there was often a semilunar laceration to be dealt with.

Dr. F. R. STURGIS, of New York, said that when the rupture was slight, the introduction of an instrument to keep the canal patent was often all that was necessary. When, on the contrary, the rupture was extensive, an operation was called for.

Dr. ABNER POST, of Boston, reported a case of ruptured urethra which had recently come under his observation. In this case, the speaker said, the patient would have been better off had an immediate operation been performed and the urethra sutured.

Dr. GEORGE CHISMORE, of San Francisco, said that, while he coincided with the views of the writer of the paper in every respect, yet it seemed to him that it was a little premature to conclude that a rupture of the urethra, not sutured and left to the healing powers of Nature alone, would invariably lead to a particularly intractable form of stricture. He reported a case in which he had had an opportunity to examine the urethra of a patient who had sustained a traumatic rupture of the canal ten years before, in whom no instruments had been passed for many years. He had found a stricture at the seat of the injury which had yielded very readily, admitting within two weeks a No. 10 French.

Dr. BRYSON said that in the linear form of stricture, which was usually a simple band rising quite sharply from the urethral wall, dilatation would often produce good results and sometimes bring about a radical cure. A longitudinal tear might heal even without the use of a catheter, but in traumatic cases the rupture was usually transverse or oblique.

Dr. CABOT said he agreed to the statement made by Dr. White that it was often difficult to decide whether a patient required immediate operation or whether milder measures would suffice. The feeling he had was that if a patient who required early operation was not operated on, bad results usually followed, such as an abscess, together with a cicatricial stricture, which might have been avoided by an immediate operation. The actual danger pertaining to such an operation was trivial. It was a much more serious matter if a blood clot or a tear was left in the mucous membrane. In case of doubt, therefore, it was well to operate. There were undoubtedly cases where the injury was so slight that such treatment as had been indicated by Dr. White would suffice, but where there was inability to pass a catheter, or if there was a large swelling in the perineum, an operation was necessary. In the case related by Dr. Chismore, the good result had been, no doubt, partly due to the fact that a perineal opening had been made, thus preventing urinary infiltration.

**Two Cases of Urethrotomy, with Transplantation for Urethral Strictures.**—Dr. JOHN P. BRYSON, of St. Louis, related the following case: The first patient was seen by him in December, 1891. He had an annular stricture of the urethra the anterior face of which was situated five

inches and a half from the meatus. The stricture had its origin in a gonorrhœa contracted eight years before. It was of the inflammatory variety, resilient, and had repeatedly resisted efforts at dilatation carried beyond No. 14 French. Having been convinced that further palliative treatment was useless, the speaker said he had opened the canal on December 22, 1891, and had disclosed a stricture about a quarter of an inch in breadth situated at the posterior part of the bulbous sinus, and lined by roughened and inflamed mucous membrane. There had been no well-defined margin between the healthy and diseased tissues, the one gradually shading into the other. The membranous portion of the urethra had not been much dilated, but had been in a state of mild, chronic, purulent inflammation. The urgent request of the patient, who had demanded a radical cure of the trouble which had considerably undermined his health, had led Dr. Bryson to disregard the additional risk caused by the posterior urethritis, and at once to dissect out the whole of the diseased tissue, going well beyond it on either side, in order to be sure of the mucous membrane. When the dissection had been complete it had been seen that the divided ends of the urethra had been separated fully three quarters of an inch and an attempt to bring them together had failed. As the base of the wound had been composed of spongy and vascular tissue, immediate transplantation of a graft taken from the lining membrane of the prepuce had been ventured upon. This had been stitched to the cut ends of the urethra by interrupted catgut sutures. The urethra and bladder had been thoroughly irrigated with warm carbolic-acid solution, a catheter which passed the full length of the urethra had been tied in, and the perineal wound had been propped open with iodoform gauze, loosely placed. On December 24th the gauze had been removed; two days later the catheter had been removed, and on inspection it had been found that the graft had "taken." The catheter had been left out. The patient had passed his urine chiefly through the perineal incision. He had left the hospital on January 6, 1892, at which time the perineal wound had almost closed. He had come under observation again in March, 1894, complaining of a free urethral discharge, and after this had been cured a No. 30 French sound had entered the bladder easily, almost painlessly, and had caused no bleeding. On December 26, 1894, the patient had reported that he had had no further trouble and had been able to urinate in a full stream. He had again been heard from in the fall of 1895, when he wrote that he had remained perfectly well since the operation and could urinate in a full stream at normal intervals, and that he had had no treatment in the interim.

In the second case several attempts at transplantation had been made before a successful graft could be introduced.

(To be continued.)

## AMERICAN SURGICAL ASSOCIATION.

*Annual Meeting, held in Detroit on Tuesday, Wednesday, and Thursday, May 26, 27, and 28, 1896.*

The President, Dr. LOUIS McLANE TIFFANY, of Baltimore, in the Chair.

(Concluded from vol. lxi, p. 786.)

**Intrathoracic Tuberculosis.**—In a paper on this subject Dr. GEORGE RYERSON FOWLER, of Brooklyn, went into the historical part of the disease at great length,



and devoted considerable attention to the surgical treatment of pleuritis and empyema. Of all the organs in the human body, he said, the lungs were most frequently the seat of tuberculosis. Inasmuch as there was no lung affection that might not be complicated by tuberculosis, it followed that pleural affections were most frequently tuberculous in character. Few patients who had suffered from pleurisy escaped tuberculosis, and this fact increased the importance of the surgery of pleuritic affections in their relation to tuberculosis.

The author gave a brief account of the effects of pleuritic effusion upon the progress of tuberculous disease of the lungs. The view formerly held, that the activity of the circulation in the lung tissue constituted a trustworthy means of protection against the occurrence of tuberculous infection of the respiratory organs, was combated. The application and technics of exploratory puncture or thoracentesis, incision, and drainage, König's operation, and the resection of a portion of rib were gone into quite extensively. This was followed by a consideration of the operation of thoracoplasty and its indications. Schede's operation of extensive resection of the chest wall, including, with the bony resection, removal of the attached soft parts, namely, the intercostal muscles and thickened pleural membrane, was described. It was recommended that the edges of the incision be approximated closely about the drainage tube and the dressing applied in such a manner that the tube should pass through them. The drainage tube was then to be attached to a tube which was sufficiently long to lie over the side of the bed and touch the surface of a sublimate solution. When the patient could sit up, the tube was to be fastened to a bottle at the waist, as suggested by Bulau, of Hamburg. By this method of drainage the patient was saved from the discomfort produced by soiled dressings.

The question of complications occurring in connection with thoracoplastic operations upon the chest wall, namely, pulmonary thrombosis and cerebral embolism with the resulting paralysis, was alluded to.

The consensus of opinion at the present day seemed to discountenance thoracotomy in tuberculous patients, preference being given to repeated puncturing or, at the most, the method of permanent siphonage.

As to the direct treatment of tuberculous cavities, it was stated that some difficulty must necessarily be experienced in the selection of proper cases. In cases in which the disease had come to a standstill, any interference would be unjustifiable, for the reason that it was these cases in which a cure was obtained by natural processes.

The operation of resection of the lung was discussed at some length, and attention was called to the fact that the pulmonary structure differed from all other structures in the body in its susceptibility to infection and its anatomical peculiarities.

The experiments of Gluck, of Berlin, and Hans Schmidt upon the lower animals in resection of the lung were detailed, as also those of Virondi, who had produced localized tuberculosis in the lower animals.

**Tuberculosis of the Superficial Glands.**—Dr. DEFOREST WILLARD, of Philadelphia, detailed the method of tuberculous infection of the lymph nodes. The route of entrance was usually by very slight abrasions or injury. Slight wounds were more likely to admit bacilli, as they aroused local resistance to a lesser degree than severer injuries. The face and neck were especially common places of entrance. The lymph glands acted

as filtration stations, and often proved effective in overpowering the invading foe. An individual's resistive force might be lessened by hereditary impairment of cells or by the temporary condition of the tissues. Local caryocinetic action might be effective, or, if only partially, caseation and absorption might occur with less resistive power, or, if staphylococcus infection resulted, suppuration followed. When once the glands had become infected, they were a perpetual menace to the general system, and should be removed. Suppuration would sometimes effectually destroy all the invading bacilli; yet this was a slow and dangerous process, subjecting the individual to constant risks. Infected glands should be removed if possible during the stage of induration. The removal of tuberculous glands from the neck was frequently a most serious operation, provided connective-tissue infiltration was present, and especially if the chain of glands had dipped deep beneath the cervical vessels and nerves or had extended below the clavicle. These deep glands could be safely removed only by following the line of cleavage between the gland and the protection wall, which had been partially thrown about it, each gland being cautiously shelled out. The jugular veins, the branches of the carotids, and the pneumogastric and phrenic nerves should be carefully avoided. When a vein was injured, immediate pressure with subsequent ligation or lateral suturing should be performed. If the phrenic or pneumogastric was injured, it should be at once sutured with fine silk. Great care should be exercised to prevent the discharge of pus and caseating material upon the fresh wound; if such an accident occurred, the area should be thoroughly cleansed and disinfected. Temporary drainage was advisable when infection had occurred from such a discharge, but with clean enucleation primary union without drainage could be secured. In infection in the axilla, the glands should be enucleated with the same care that was employed in the removal of carcinomatous nodules. The same rule held good in regard to glands situated in the arm. In the groin many difficulties would be encountered, especially if the indurated glands extended deep about the femoral or saphenous vein. Secondary operations were advisable, if necessary. In patients who absolutely refused operation, local and constitutional measures must be employed, including the use of tuberculin and serum therapy. Dr. Willard had more confidence in the local effects of iodine upon tuberculous granulations than in those of iodoform. He had also obtained beneficial results by stimulating cell growth with a mixture of aristol and nuclein or protonuclein, applied locally. Infiltrated glands should not be allowed to remain and contaminate the general system.

**Does Additional Experience show that Castration is a Curative Remedy in the Treatment of Hypertrophy of the Prostate Gland?**—Dr. ALBERT T. CAROT, of Boston, read a paper in which he expressed the following conclusions: 1. In the matter of mortality the operation of prostatectomy had a slight advantage over castration. It seemed probable that, with later statistics which reflected the last improvements in the technics of prostatectomy, this advantage would be further increased. 2. Prostatectomy had the further advantage that it allowed of a thorough examination of the bladder and of the discovery and correction of other conditions not before suspected. Stones were frequently removed in this way without adding to the gravity of the operation. In several reported cases of castration the absence of improvement had led to the subsequent discovery of stones which



had required other operations for their removal. 3. Prostatectomy had, on the other hand, the disadvantages that it confined the patient for a longer time, and that it was sometimes followed by a fistula. This had occurred in one of the forty-two cases cited by the author. 4. It was too early to know whether any permanent loss of vigor followed castration when done on old men. The nervous effects which sometimes immediately followed the operation suggested a suspicion that with the testes the system might lose some tonic effect which was exerted by those organs. 5. The functional results of the two operations seemed at present to be as nearly equal as possible, and the tendency to relapse showed itself in about the same proportion of cases after either operation. 6. The reduction in the size of the prostate after castration was largely due to a diminution of congestion. Later, a degeneration and absorption of considerable portions of the gland might occur. The glandular elements were particularly affected by this atrophy. 7. Castration would seem to be especially efficacious in cases of large, tense prostates when the obstruction was due to pressure of the lateral lobes upon the urethra. 8. Castration was of but little use in myomatous and fibrous prostates. 9. Prostatectomy had its special field in the treatment of obstructing projections which acted in a valvular way to close the urethra. There was, however, no form of prostatic obstruction which a skillful operator might not correct by prostatectomy. 10. Prostatectomy was, then, applicable to more cases than castration and was especially to be selected when an inflamed condition of the bladder made drainage desirable.

Dr. J. EWING MEARS, of Philadelphia, had been very much struck with the mortality shown from the different operations. He was sorry to learn that no one had any information to offer concerning an operation which had been suggested by himself as a substitute for castration—namely, ligation of the vas deferens.

Dr. CHARLES B. NANCREDE, of Ann Arbor, said that, as a result of his work with the operation of castration, he had been converted from a rather doubtful attitude toward the operation to a desire and willingness to do it again. He gave at some length the details of a case in which he had operated. The patient had done very well after the operation, but had died in five or six weeks from an infection of the wound.

Dr. L. P. PILCHER said that from the statistics mentioned in Dr. Cabot's paper it would seem that prostatectomy had a slight advantage over castration, not only in its results, but also by affording opportunity to secure relief from other urinary complications at the time of operation. In his own hands, however, all prostatectomy operations had been failures, but if the opinions of other surgeons could be ascertained, it would probably be found that a much larger proportion of fatal results really occurred than the figures mentioned by Dr. Cabot showed. The operation of prostatectomy had been resorted to only in cases of men who had manifested considerable vigor, while, on the other hand, castration had been performed on patients who were already extremely feeble and could not stand a more serious operation, and frequently by surgeons who were not particularly expert in genito-urinary work.

Dr. J. McFADDEN GASTON, of Atlanta, spoke of a method of treatment that had recently been brought to his notice the principle of which was to endeavor to reduce the size of the prostate by the employment of prostatic extracts in a somewhat similar way to the methods now employed with the thyroid extract.

Dr. ROSWELL PARK, of Buffalo, mentioned two cases of castration performed by himself in which the subsidence in the volume of the prostate gland had been remarkably rapid and complete. In his opinion there could not be a simpler or easier operation.

Dr. ROBERT ABBE, of New York, spoke of a case in which he had removed both testicles under cocaine, with the result that the prostate had been reduced more than half its size. He compared the operation of castration to that of removal of the ovaries.

Dr. CABOT said that the most important question was, not as to the ability of the operator, but as to the selection of the proper cases for the operation of castration. If a proper selection was made, he believed the mortality would be greatly reduced.

**The Ambulatory Treatment of Fractures of the Lower Extremities.**—Dr. LOUIS S. PILCHER, of Brooklyn, mentioned a large number of cases of fracture in which the ambulatory treatment had been employed, and illustrated his paper with diagrams of the apparatus employed. He described in detail the manner of applying the plaster bandage so as to form a sufficiently rigid and protecting case, and also explained the splints used in this method of treatment. He stated that the number of cases of fracture of the leg which had been treated by himself up to the present time with the ambulatory dressing was twenty, and the results that had followed this treatment in these cases had been very satisfactory. After describing at some length his method of applying the dressing, demonstrating the apparatus in position, and referring to cases in which he had used it, Dr. Pilcher drew the following conclusions: 1. That the main object in the treatment was to enable the patient in a few days to get up and walk about on the fractured leg. 2. That union was accelerated in many cases; comfort, appetite, digestion, and sleep were secured; swelling, muscular atrophy, pneumonia, and delirium tremens were prevented, and flexion and extension were maintained. 3. That in the application of the dressing the foot was kept at a right angle to the leg, and extension was maintained until the deformity was corrected and the legs were of even length. 4. That the material usually employed was plaster of Paris, in which wooden or metal strips might be included; there should be a very thick plaster sole, separated from the foot by a layer of cotton about five centimetres thick, the plaster having been carefully molded with the hand, so as to fit snugly against the upper end of the tibia and about the dorsum and ankle. 5. It was generally thought best not to apply the dressing until the second or third day after the accident. 6. The patient must remain under observation in order that any displacement, undue constriction, or other defect might be noted. 7. In fractures of the thigh a combination of plaster of Paris and glue was recommended by some, while others had used special splints. 8. The plaster might be made to include the pelvis. 9. The dressing might be applied to the leg, and then allowed to harden, after which the patient's hips were raised from the bed, extension having been made to correct displacement, and the remainder of the dressing applied. 10. An important feature of the dressing was its strong re-enforcement and close application at the upper and back part of the thigh, thus securing a firm bearing against the ischium and the perineum. 11. That the sooner the immobilization was effected the less would be the swelling. 12. That the method could be applied with great satisfaction, and that an exact fit must be secured.

Dr. A. T. CAROT said that in two cases the use of Dr. Pilcher's apparatus had been of benefit in his hands.

Dr. NICHOLAS SENN, Dr. DE FOREST WILLARD, Dr. CHRISTIAN FENGER, Dr. J. EWING MEARS, Dr. CHARLES B. NANCREDI, and Dr. GEORGE W. GAY did not agree to the methods of treatment suggested by Dr. Pilcher and Dr. Owens.

Dr. H. H. MUDD, of St. Louis, thought the apparatus might work very well in certain cases.

Dr. MOORE stated that he had had good results from the employment of this method of treatment in two cases.

#### The Treatment of Traumatic Lesions of the Kidney.

—Dr. W. W. KEEN, of Philadelphia, after reading a tabulated list of a hundred and sixty-three cases of renal traumatism published since 1878, stated that traumatic lesions had, as a rule, two advantages over the lesions of disease: 1. As they were generally unilateral, the other kidney was not injured. 2. The injured kidney was apt to be healthy or fairly so. Gunshot wounds, on the contrary, have two disadvantages. 1. The treatment of the kidney alone in many cases could not be solely considered. 2. If the renal substance was only moderately injured, no one would be willing to do primary nephrectomy. As to the treatment of gunshot wounds, they might be classed as follows: 1. Those involving only the renal substance. 2. Those involving the pelvis. 3. Those involving the vessels. 4. Those involving the ureter. The incision in most cases should be abdominal, either median or at the outer border of the rectus, and if the vessels were badly torn, so that not only was there a great deal of hemorrhage, but the integrity of the organ was threatened, nephrectomy should be performed. In treating the extravasated blood in case the kidney was not removed, if the bleeding was into the peritoneal cavity, the blood must be removed by abdominal section, but if it accumulated in the perinephritic tissues alone, it might be left undisturbed. In treating the kidney, if the wound was sufficiently large for it to prolapse, it should be sutured and replaced if its condition was suitable, and the same procedure might be carried out if the pelvis of the kidney was opened. A partial nephrectomy would be advisable if a portion of the kidney was so far severed that its future integrity was threatened. As the dangers of rupture of the kidney were primary and secondary, the treatment might be conveniently so divided. Usually it must be decided if a nephrectomy should be done within the first few days or even hours, but it might occasionally be postponed and become a secondary operation, while the lumbar route would be best. In a hundred and sixteen cases of rupture of the kidney which were reported, sixty-six patients had recovered. Secondary nephrectomy was nearly twice as fatal as primary.

**On Susceptibility and Immunity, with Special Reference to Surgical Cases.**—Dr. ROSWELL PARK, of Buffalo, in a paper on this subject, said that man seemed to be proof against numerous infections which were common to many of the domestic animals, such as, for instance, those of hog cholera, symptomatic anthrax, and chicken cholera, while he was, in common with them, susceptible to the infection of anthrax, glanders, tuberculosis, and actinomycosis. Then, too, men differed among themselves in susceptibility to the same disease. This, of course, was explained by the fact that, at the time of exposure, their bodies were not receptive or were more resistant. Immunity might also be local or constitutional, and congenital or acquired, and acquired immunity might be natural or artificial. Immunity was, in some sense, a racial characteristic, as, for example, in the

case of the Japanese, who, it was said, never had scarlet fever, but were more susceptible to beriberi than Europeans were, while the negroes escaped yellow fever and were less liable to malarial disease and dysentery than Europeans were. The conclusions of surgical importance which might be legitimately reached from the study of the conditions dealt with were essentially these: That the surgeon in emergency cases had to do the best he could, not merely with the means at hand, but with the issues at hand, and here, so long as he could control what might happen outside of the body, he had done his full moral and legal duty. On the other hand, in any case where there was time, it was the surgeon's bounden duty, bearing in mind a summary of the conditions which notoriously conspired upon the one hand, to lower vulnerability, upon the other hand, to afford protection, to so alter the habits, the diet, the surroundings, and the preparation of his patient as to restore his tissues and vital fluids, so far as possible, to their normal condition before he interfered with their functions by an operation. For years Dr. Park had contended that, since the inauguration of the so-called antiseptic era, and in our enthusiasm for combating infection from without, we had lost sight of a most important truth which we could not afford to disregard, namely, that in our enthusiasm for combating infection from without, we had almost neglected the measures, first, for the recognition and, second, for the successful prevention of infection from within.

**The Effect of Anæsthesia upon the Temperature.**—This was the subject of a paper by Dr. DUDLEY P. ALLEN, of Cleveland, who dwelt very fully on the results obtained in a large number of experiments, principally upon dogs, and gave the details of each observation.

Dr. Gay, Dr. Park, Dr. Harte, Dr. Fenger, Dr. Willard, Dr. Abbe, Dr. McGraw, and Dr. Nancredi heartily indorsed Dr. Allen's methods and views.

Dr. PARK, who represented the committee on the nomenclature of tumors, presented a printed report showing the method suggested by the committee of classifying tumors.

Dr. GASTON demonstrated upon the cadaver an improved method of exploring the thoracic cavity.

Dr. S. H. WEEKS presented his report as a delegate to the British Medical Association in 1895.

**Retention from Bending, and Valve Formation (Oblique Insertion) in the Biliary Tract.**—Dr. CHRISTIAN FENGER exhibited morbid specimens and diagrams which demonstrated his method of treating this affection.

**An Unusually Large Periosteal Sarcoma of the Thigh Successfully treated by Extirpation.**—This paper was read by Dr. JOSEPH RANSOHOFF, of Cincinnati.

#### SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

*Meeting of March 4, 1896.*

The President, Dr. PARKER SYMS, in the Chair.

**Pseudo-Leucocythæmia.**—Dr. A. BROTHERS presented a case of this kind, with the following history: Mrs. K., forty-six years of age, married twice. With the first marriage she had had eight children and two miscarriages. With the second marriage, fourteen years ago, she had had one child, now twelve years old, and two miscarriages. She had passed the menopause six years ago. She had always been a strong, healthy woman, and had



suffered so much from adiposity that she had constantly prayed to grow thinner. Her prayer had been answered. She had never had malarial or any severe illness, although she had spent her life in poverty, hard work, and miserable surroundings. Her present illness dated back a year, when she had begun to lose appetite, feel tired, and grow weak. Since that time she had lost fully fifty pounds, and had felt hardly strong enough to drag herself about; but, with the persistency of ignorance and superstition, she had preferred the squalor of her tenement basement to the comforts of a hospital. About eight months ago she had begun to suffer from pains in the left lumbar region, and had noticed a hard swelling which had since then increased so as to be not only felt but seen. Her complexion had gradually assumed a deathly pallor, and she had suffered from sleeplessness, listlessness, cardiac palpitation, dyspnoea on exertion, and occasional vertigo. Her mind had been perfectly clear, and she had had no unusual headaches. She had had attacks of vomiting from time to time, and had suffered intensely from constipation. Although not dropsical on rising, her feet had swollen during the course of the day. Examination had revealed a frail, thin-built woman, with intense anæmia of the skin and of the buccal and conjunctival mucous membranes. The lungs had been normal. The heart had been the seat of a loud mitral systolic murmur. The kidneys had been apparently normal. The abdomen had been disproportionately large, and, in the left half, had shown the margin of a tumor which had extended from the ribs to the ilium, and had measured ten inches and a half in the vertical diameter. It had proved on palpation to be the enlarged spleen. To the right, the liver could be felt enlarged to the extent that its vertical measurement was seven inches. The lymphatic glands of the cervical and inguinal regions had been moderately enlarged. The blood had shown under the microscope a decided diminution in the entire number of red blood-corpuscles, which had been of varying sizes and contour. White blood-cells had been present in about the normal ratio—about one leucocyte to three hundred red globules. The microscopic examination had been first made by Dr. A. Jacobi, and had been confirmed by the speaker. The diagnosis, therefore, the speaker said, was pseudo-leucocythæmia of the splenic variety, in contradistinction to the lymphatic. Bone marrow had been tried, on the suggestion of Dr. Jacobi, but the patient had given it up after a short trial. For several months she had been treated with arsenic, pushed to the point of tolerance, and although she was far from well, she felt better, and it seemed that the splenic tumor had grown smaller.

Dr. GEORGE W. CRARY said that within a year he had seen a case of splenic leucocytosis without any other symptoms. The enlargement of the spleen had been detected accidentally. Examination of the blood had shown a very marked diminution in the number of red blood-cells. The man had been thin, but muscular, and the condition had not given rise to any trouble.

Dr. COAKLEY asked if there had been any attempt to distinguish between the kinds of blood corpuscles present—whether the ratio of multinuclear and uninuclear cells was normal.

Dr. BROTHERS replied that no such distinction had been made, but the white corpuscles had presented the usual appearance of these corpuscles, and there had been about one white corpuscle to three hundred red corpuscles. He had tried giving the bone marrow

smear on crackers or bread, but the patient had appeared to grow worse, and her appetite had almost completely failed, so that it had become necessary to abandon this treatment.

Dr. C. C. BARROWS said that he had had a good many patients on bone marrow. When they had complained of the fresh marrow he had changed to a dried preparation. The progress of these cases had been apparently just as good as upon the fresh preparation, although since then authorities had generally agreed that the dried preparations were inert.

**Removal per Vaginam of an Ovarian Cyst complicating Pregnancy.**—Dr. C. C. BARROWS said that he desired to report the case as an illustration of the advantages of the vaginal method over the ordinary celiotomy. Mrs. T. C., an Italian, twenty-eight years of age, had been admitted to Bellevue Hospital on January 15, 1896. Menstruation had begun at the age of fifteen years, and for several years had been profuse. One week before admission she had missed her period. For a year past she had had pain about the pelvis with a feeling of weight, pain, and a bearing-down sensation in the region of the rectum. She had had five children and four miscarriages. She had dated her present trouble from the birth of the last child, one year ago. She had suffered almost constant pain since then, and had come to the hospital for the relief of this distress. On January 27th it had been noted that she presented the signs and symptoms of pregnancy. Physical examination had also revealed an ovarian cyst of about the size of a small orange, behind the uterus and apparently adherent in this location. Posterior colpotomy had been done on that day, the contents of the tumor evacuated, and the sac freed from its adhesions and removed, together with the left Fallopian tube, which had been adherent to it. The pedicle had been tied with silk, and the incision into the peritoneum and vaginal vault closed with catgut. The operation had occupied twenty minutes. The patient had made an uneventful recovery, and had been discharged two weeks after the operation, well. She had since missed her second period, and her pregnancy was progressing satisfactorily. This case was reported because it illustrated the advantages of vaginal over ordinary celiotomy. This woman's pregnancy had not been interfered with, and her abdominal wall was intact for her approaching labor.

Dr. BROTHERS said that he had been present at the operation, and had been greatly impressed with the facility with which it had been done. It was also very remarkable that the pregnancy should have continued in spite of the operation. He recalled a case in which a woman had come for a cervix operation. The operation had been done by a most eminent gynecologist without his knowing that she was pregnant, and without interrupting the pregnancy. This was important as showing that certain operations could be performed on the gravid uterus without disturbing the course of pregnancy.

Dr. WIGGIN said he wished to confirm the statement of Dr. Barrows about the ease with which small ovarian cysts of this kind could be removed by the vagina. Certainly there was much less danger of intestinal adhesions and infection of the peritoneal cavity, and the convalescence was more rapid and more satisfactory.

Dr. BARROWS said that trachelorrhaphy was an operation which had been advised and pursued by many surgeons in cases of badly lacerated cervixes for women who had habitually aborted, the cervix being sewed up during



pregnancy for the very purpose of preventing abortion by restoring the support of the uterus and relieving congestion.

(To be continued.)

## New Inventions, etc.

### A NEW SELF-CLAMPING NEEDLE HOLDER.

By WILLIAM L. BRADY, M. D.

THE following cut represents a needle holder which I recently devised for general surgical purposes. It is composed of two pieces of highly tempered steel of different sizes. The larger piece of steel is so bent upon itself as to rebound when the two parts of the curve are made to approximate one another. It is this part of the instrument which gives it its self-clamping power. This power is obtained by having the tip end of this curved piece of steel constantly press under the posterior extremity of the smaller piece. The smaller piece of steel is locked to the larger piece by a pivot working in a depression on this larger piece of steel. There is a groove leading to this depression which aids in the separation of the two parts of the instrument for purposes of cleaning, etc. That part of the needle holder which is grasped by the hand is corrugated so as to give the operator perfect control of the instrument.

The jaws are grooved for different-sized needles.

The advantages alleged for the instrument are: 1. The constant pressure which is always exerted on the needle the moment the spring is released. 2. The ease



with which needles are released from its grasp. In many of the needle holders now in use, an enormous amount of pressure is brought to bear upon the needle in order to release the same. 3. The simplicity of the instrument both in detail and working.

The needle holder is made up in different sizes to suit the various kinds of surgical work. It is used and endorsed by some of the very best surgeons of the city.

The principle of this instrument is applied to a haemostatic forceps which I also very recently invented.

The instruments are manufactured by George Tiemann & Co., of New York.

## Miscellany.

**The Use of Antistreptococcus Serum in a Case of Acute Hæmorrhagic Septicæmia.**—In the *British Medical Journal* for July 4th Mr. Charles A. Ballance and Mr. Francis C. Abbott, of St. Thomas's Hospital, London, mention, in the interest of those who make post-mortem examinations or are otherwise exposed to septic

infection, the case of a physician, thirty years old, who pricked his thumb in making a post-mortem examination in a case of suppurative peritonitis at 1.15 p. m. on Monday, June 8th. At 7 p. m. the thumb began to throb, and during the evening this throbbing increased to burning pain, and between 9 and 10 the red lines of lymph-duct inflammation had extended as far as the axilla, and the glands in that region were enlarged. At 4 a. m. on June 9th pain and tension of the pad of the thumb were so great that nitrous-oxide gas was given and an incision made. Previous to this vomiting had occurred, and there had been several shivering fits. The temperature at 7.30 a. m. was 103° F.

At 9.30 a. m. he was seen by one of the authors. The whole body was covered with a scarlet septic erythema; the face was partly and the eyes were suffused. The patient complained of severe shooting pains up the arm, and in the intervals of pain was listless and drowsy; the temperature was high and the pulse rapid and soft. It was arranged at once to take him as soon as possible to St. Thomas's Hospital, where he was admitted about 3 p. m.

The condition gradually got worse, and on the evening of the following day (June 10th) the temperature was 104.7°, and the pulse 150, soft, feeble, irregular at times, and running. The rash was very brilliant, and hæmorrhagic in places. All day drowsiness had been a marked feature, and the respiration was more rapid than normal, and occasionally jerky. Nourishment was taken with difficulty. There was soreness of the throat, which was of a brilliant red color. During the day vomiting occurred several times, and also slight bleeding from the nose. Coughing, too, was troublesome, and he hawked up blood-stained mucus from the pharynx. There was no swelling of the thumb, and no discharge of pus from the incision, but there was great pain and tenderness along the forearm and arm, though without obvious swelling or œdema. The axillary glands were large and tender. The red lines were obscured by the rash, but the hard lymph cords could be felt. There was frontal headache and the mind was clouded. The tongue had gradually become coated and dry, and was passing into a typhoid condition. There was slight albuminuria.

At midnight (June 10–11th) 3.5 c. cm. of antistreptococcus serum (Burroughs and Wellcome) were injected. This was repeated every four hours. Six hours after the first injection (6 a. m., June 11th) certain indications of improvement were manifest:

1. The mind was clear, and the headache had disappeared.
2. The respiration was regular and less rapid.
3. The pulse was slower.
4. The tongue was moist along the edges.

On June 11th the temperature was continuously 104° F. Cold sponging, which was done several times, had no real effect. The tongue continued to clean, but a smart attack of epistaxis occurred. The rash was still as bright, and the blotchy subcutaneous hæmorrhages were more evident. Toward evening, after the epistaxis occurred, the pulse became much more rapid and weak, and gave rise to much anxiety. Strychnine and digitalis were ordered every four hours.

During the night the temperature dropped, but much pain and some swelling were noticed in the ball of the thumb, and there was tenderness above the wrist on the radial side, with slight œdema. Notwithstanding the bad night the general condition was better.

On June 12th the skin was moist, and the tongue

\* Presented before the Society of Alumni of Bellevue Hospital, April 1, 1896.

was steadily cleaning from the edge, leaving a marked pink, moist surface, such as is seen on the throat in diphtheria when the membrane clears under the use of antitoxine. Chloroform was given, and an incision into the thenar eminence, opening the sheath of the tendon, was made; also one over the first phalanx of the thumb. The parts, though swollen and tense, contained no visible pus. At midday the dose of antitoxine was doubled, 7 c. cm. being injected every four hours.

No further incisions were necessary, the swelling and œdema above the wrist gradually disappeared, and the incisions all began to heal without any visible discharge of pus. The rash did not disappear entirely until June 16th.

The use of the antitoxic serum appears to the authors to have produced the following effects:

1. The mind became clear notwithstanding the high fever.
2. The frontal headache ceased.
3. The tongue began to clean and become moist from the edge until it was clean, moist, and of a peculiar pink color all over.
4. The pulse became slower and of better quality.
5. The respiration was slower and never jerky afterward.
6. The skin, which was dry and burning, became moist, and sweating occurred.
7. The wounds healed without suppuration; and the threatened inflammation of the great synovial sac under the anterior annular ligament subsided.

Every care was taken to aseptize the syringe used for the injection, to cleanse the skin at the site of injection, and to maintain the sterility of the serum by keeping it in ice, and using other obvious precautions. The injections were given into the loin and abdominal wall. Notwithstanding the large number of injections (twenty-eight in all, eight of  $3\frac{1}{2}$  c. cm., and twenty of 7 c. cm.), no local reaction occurred at all except a fleeting urticaria limited to the site of injection, which was noticed once or twice, and did not produce any inconvenience.

The recovery, the authors add, would seem to encourage the employment of the antistreptococcus serum in many other serious surgical conditions. Among many others, the following occur to them: Fracture of the skull with risk of suppurative meningitis, acute necrosis, acute septicæmia or pyæmia from any cause, rapidly spreading gangrene or cellulitis, erysipelas, general suppurative peritonitis, and the septic complications of middle-ear disease.

With regard to the dose, they would be inclined to begin by injecting a large one—say 20 c. cm.—and then to give a smaller dose—say 7 c. cm. every four hours. After most of the injections given in the case related, the temperature temporarily dropped, but soon rose again, and they fancy that it is of great importance to give the injections frequently.

**Veratrum Viride and Gelsemium in the Treatment of Traumatic Tetanus.**—In the *Medical News* for July 18th Dr. Fordyce Grinnell, of Pasadena, Cal., relates the case of a boy, six years old, who, while barefoot, cut the ball of his left foot on a piece of glass. The wound apparently healed. Some nine days after (on April 14th), he complained of stiff jaws and difficulty in swallowing. These symptoms increased until, on the night of the 16th, tetanic spasms began to manifest themselves. The cicatrix of the wound was cleaned and scraped. It seemed somewhat tender on pressure, but no foreign

body was discovered. The site was scarified, however, and turpentine and oil were applied, and four-grain doses of ammonium bromide were given every two hours.

As no perceptible improvement was noted, on the 17th Norwood's tincture of veratrum viride was given, at first a drop every hour, then two drops every hour. As this did not seem to prevent the return of the spasms from time to time, fluid extract of gelsemium was given, at first in drop doses every hour, in conjunction with the veratrum, then in two-drop doses, and finally in three-drop doses. The dose of veratrum was also increased on the 20th to three drops every hour, so that the child was taking three drops each of the veratrum viride and the gelsemium every hour, and it seemed to require this amount to control the spasms. These doses were continued for forty-eight hours. Only once during this time did they produce active vomiting or sufficient nausea to require an opiate to control it. When this relaxed condition was obtained, the drops were decreased to two of each on the 22d, and on the 25th to one of each, which was continued until the 27th, when the interval was lengthened to two hours, and gradually thereafter the doses were discontinued.

The ammonium bromide was given in three- to four-grain doses every two hours during this entire period. The use of the remedies in diminished doses was continued to the 30th of April, when the boy could open his mouth without difficulty, had a good appetite, and was playful, but more boisterous in his manner than usual, or, as his mother said, "more nervous."

The instructions had been to decrease the amount and frequency of dose when distinct signs of nausea appeared or the signs of convulsions abated.

The author was led to try veratrum on account of its value in puerperal and other convulsions, and gelsemium by its action in causing relaxation of the muscles of the jaw.

#### The Action of Carbonic Acid on the Sexual Organs.—

In the *Deutsche Medicinal-Zeitung* for June 29th there is a paper that was read by Dr. Schuster, of Bad Nauheim, before the Seventeenth Congress of Balneologists, held in Berlin. Although, remarked Schuster, it had long been known that carbonic acid had an effect on the sexual organs, that knowledge had hardly been turned to account in practice. In his work *Ueber die Vielseitigkeit der Kurmittel Nauheims und seiner Indikationen*, he had made brief mention of the fact that those of the Nauheim waters that were rich in carbonic acid had such an influence upon men under certain circumstances that easily impressible patients had erections even in the bath, and sexual desire was materially increased in many patients by the course.

In a bath of highly carbonated water, after a few minutes, as was well known, there was a sense of increased warmth, often of slight burning and prickling, especially on the inner surface of the thigh, on the perinæum, and on the scrotum or the labia, which was accompanied by reddening of the skin of those parts. Therefore carbonic acid had an irritant action on the nerves and blood-vessels of the skin. It was probable that this peripheral irritation was conducted centripetally and gave rise to a change in the nervous and vascular systems, together with a change in metabolism. It would not be strange if an influence upon the sexual apparatus also was exerted if we considered the fact that, in the male as well as in the female, the sexual nerves went very near the surface. It was well known that peripheral irritations in the neighborhood of the genitals



evoked or heightened sexual desire, and in the male sex were the direct cause of erections. Fürbringer had spoken of irritation of the perineum as particularly prone to give rise to erections, manifestly in some measure because of the part played by branches of the nervi erigentes in the innervation of the rectum.

The author then quoted several writers, some of whom had observed that the action of the baths was so pronounced as to cause nocturnal emissions in old men who had for years been free from them. One of these writers, Küster, had in the majority of instances found that in women the effect on sexual desire was only trivial.

In regard to the use of these baths in cases of impotence, it was unnecessary to say that it was ineffectual in those that depended on congenital malformations or defects, or were incidental to such diseases as diabetes, nephritis, cerebral syphilis, tabes, or other spinal affections, or were due to atrophy of the testicles, to stricture, or the like. Moreover, it could have no effect on impotentia generandi, but only on impotentia coeundi; in short, it was only in cases of sexual neurasthenia, nervous impotence, that it could be effectual, and in but certain forms of this, such as those which, as Eulenburg had expressed it, depended on diminished calls upon the spinal centres and their consequent functional impairment or on disturbances of the peripheral reflex paths. It might also be of service in impotence due to impairment of the cerebral centre. It was directly contraindicated in spermatorrhœa and in cases of premature ejaculation. The author thought the treatment had a particularly favorable field in so-called senile impotence that had come on prematurely.

In regard to women, the author cited Kisch and Loimann's observations of the good effect of carbonic-acid baths in cases of dyspareunia and anaphrodisia and in promoting menstruation. Loimann, in opposition to an author previously cited, had expressed the opinion that the aphrodisiac action of carbonic acid on women was even greater than on men. Schuster then mentioned briefly certain other diseases of women in which the carbonic-acid treatment had been observed to have a good effect or was likely to, such as uterine and ovarian neuralgia and consequent hysteria or neurasthenia, dysmenorrhœa not dependent on mechanical obstruction, amenorrhœa, and chronic metritis.

**Senecio as an Emmenagogue.**—The *Gazette hebdomadaire de médecine et de chirurgie* for July 2d contains a report of a recent meeting of the Société de thérapeutique at which M. Heim and M. Dalché related the results of their experiments with two varieties of senecio, namely, *Senecio vulgaris* and *Senecio jacobœa*. They made use of extracts in which they found two alkaloids, senecine and senecionine, and a crude resin. The effects of the extract on the sensory nerves were little known; on the motor nerves, a strong dose provoked modifications which were analogous to those produced by curare. The number of heart-beats was diminished by the use of weak doses; a strong dose caused the arrest of the organ in systole.

Their experiments made on dogs and rabbits showed that the extract of senecio was well tolerated, even in large doses. With regard to its emmenagogue action, the authors stated that they had tried the drug in fifteen cases and had found that it ameliorated dysmenorrhœa and amenorrhœa, that is, those forms which could not be attributed to inflammation of the uterus or of its annexa. In cases where these organs were involved

senecio should not be employed, as it aggravated the patient's condition in a singular manner.

M. Bolognesi stated that he had made a study of the action of senecio in twenty cases, and that the results of his observations led him to think that the drug was a good emmenagogue in amenorrhœa, even in cases of long standing. In certain cases it provoked menstruation; in others it regulated this function. It had no influence on pain, and it had never aggravated the causal disease of amenorrhœa. In strong doses it seemed to provoke a sort of utero-tubo-ovarian erection.

M. Bardet said that he had seen cases in which the results had left no doubt as to the peculiar action of senecio on the uterus. In one case it had provoked nausea and uterine contractions which manifested themselves by sensations similar to those produced by the gravid uterus. In another case the drug had caused miscarriage.

M. Blondel thought that the latter case reported by M. Bardet proved that *Senecio jacobœa* had a true congestive action on the utero-ovarian apparatus; its physiological action, however, he said, seemed to remain very obscure. He thought that M. Heim's and M. Dalché's observations in regard to this were extremely vague, and conflicted essentially with what had been observed by M. Bardet and M. Bolognesi. In practice, he said, an emmenagogue should not be employed until its mode of action had been ascertained, in order that its indications and contraindications might be clearly established. Amenorrhœa, in reality, was not a disease, but a symptom, and it was to its physiological causes that the treatment should be directed if we desired to combat it, by changing our modes of procedure. In addition to the amenorrhœas commonly met with, those which depended upon anæmia, for example, there were forms which were connected with a structural defect of the uterus, ante-flexion, retroflexion, accidental atresia of the neck of the uterus, spasm of the internal orifice, etc., and it was indispensable to establish all this before selecting an emmenagogue. In some young chlorotic girls iron acted marvelously; in others, who were lymphatic or nervous, douches were excellent. After serious infectious diseases, such as typhoid fever, and after a physical or mental derangement which influenced menstruation, the greatest advantage was to be derived from exercise in the open air, such as walking or even riding a bicycle.

With regard to the so-called functional amenorrhœas, said M. Blondel, which depended upon the condition of the uterus itself, it was evident that the treatment of deviations was indicated when they were the cause. With regard to drugs which caused congestion of the utero-ovarian apparatus, whether they acted on the smooth fibre, as strychnine and salicylic acid did; whether they provoked congestion in the circulation of the true pelvis by irritation of the mucous membrane or by obstruction of the hepatic circulation; whether their use was directed to the ganglionic plexus by the intermediary of the central nervous system, the advantages were not seen, and all the dangers were not comprehended. We should not forget, said M. Blondel, that in the majority of cases the cause of amenorrhœa was pregnancy, and the difficulties which surrounded the diagnosis of this condition during the first months were well known.

M. Blondel thought that, on the whole, the treatment should be indirect; the medicaments which acted directly by provoking uterine hemorrhages were frequently uncertain and sometimes dangerous, and when they did exert any action it was only transitory. Here, as in many



other cases, it was not the symptom which must be treated, but the cause. If any medicament was to be resorted to, potassium iodide was preferable, and it should be administered in daily amounts of from a grain and a half to three grains. It was especially adapted for the treatment of arthritic amenorrhœa, that was to say, to the majority of cases of amenorrhœa without lesions, which were those generally met with in private practice.

**Infantile Diarrhœas and their Treatment.**—In an article on this subject in the *Presse médicale* for July 1st, M. A. F. Plicque deals with the four principal forms of infantile diarrhœa, which, according to Lesage, are as follows: 1. Simple diarrhœa. 2. Bilious diarrhœa. 3. Green bacillary diarrhœa. 4. Cholera infantum.

Simple diarrhœa, he says, is often caused by cold and poor milk. In this form the stools are sometimes of a fatty consistence, yellow in color, and often putrid. This diarrhœa, which seems to be due to the bacillus coli, may be contagious. Even in the less severe forms, especially in summer, sudden complications, such as cholera infantum, typhoid symptoms, and meningitis, may occur, and, during the winter, broncho-pneumonia. It should therefore, be very energetically treated.

The cause of this affection may be, in natural feeding, the bad quality of the mother's milk or too frequent nursing. Lesage, says M. Plicque, has shown the frequency of gastro-enteritis in infants who are nursed by women who suffer from intestinal troubles. In cases of artificial feeding it may be due to improper sterilization and contaminated milk.

With regard to the treatment, M. Plicque considers it necessary to begin always with a slight purgative, which may in itself be sufficient to arrest the diarrhœa. If this fails, enemata of starch water with from half a drop to a drop of laudanum may be administered, and repeated two or three times a day if necessary. Internally, bismuth or astringents may be used. The following formula is prescribed by Barthès and Sanné, and is, according to the author, an excellent remedy:

Peppermint water.....	900 grains
Syrup of rhatany.....	300 "
Tincture of catechu.....	75 "
Gum arabic.....	135 "
Extract of logwood.....	30 "

A teaspoonful of this mixture is to be given every hour. If the diarrhœa is rebellious, it is always necessary to use opium.

Bilious diarrhœa occurs during the first year of life, and it is generally coincident with a slight icterus; it is observed in older children after slight attacks of indigestion, and in cachectic children who suffer from tuberculosis of the liver. The green color of the stools may resemble that seen in green diarrhœa, but the symptoms are not so intense. In doubtful cases the addition of a drop of nitric acid to the stains on the diaper gives the characteristic tints of violet and rose. This diagnosis is important, for the treatment consists, above all, in the employment of alkalies. Lesage recommends giving sodium bicarbonate in capsules containing from four to eight grains, which are to be administered in milk an hour or two before eating. The entire amount given during twenty-four hours should not exceed fifteen grains for each kilogramme (a little over two pounds and a fifth) of the child's weight. In any case not more than seventy-five grains should be given. The bilious diarrhœa which is connected with tuberculosis nearly always resists all treatment.

The progress of green bacillary diarrhœa, says the author, may be acute. It resembles, with the exception of the vomiting, infantile cholera, and fatal results may follow in a day or two. Even in the less intense forms pulmonary and meningeal complications are not rare. It may also become chronic and cause death slowly by atrespia. The various forms, says M. Plicque, seem to be associated in varying degrees with the virulence of the bacillus coli. The peculiar green color seems to be due only to a chromogenic transformation of the bacillus coli. The general hygiene and treatment is somewhat like that used in simple diarrhœa. Besides this, however, lactic acid must be employed, as, according to Hayem and Lesage, it appears to have peculiar antiseptic properties. M. Plicque recommends the following formula:

Lactic acid.....	30 grains;
Mucilage of gum arabic.....	3 ounces.

A teaspoonful of this is to be given at a time. M. Descroizilles recommends for such cases the association of a solution of hydrochloric acid and laudanum in the proportion of from one to two drops of laudanum in sweetened water to from fifteen to thirty grains of the solution. He attributes antiseptic properties to the hydrochloric acid, although they are not so energetic as those of lactic acid.

Cholera infantum, continues M. Plicque, often sets in during the course of the preceding forms of diarrhœa. It is accompanied by repeated vomiting and an intense and profuse diarrhœa, which is nearly always watery in character, but the dejecta do not, as in Asiatic cholera, contain ricelike grains. Occasionally greenish stools are seen. The abdominal wall, which is weakened and flabby, is as if glued to the spine.

Algidity with cyanosis and coldness of the extremities very soon sets in; this peripheral algidity does not always prevent a certain elevation of the rectal temperature. Collapse with a complete inertia occurs very rapidly, too, and it is interrupted by slight tremblings and energetic respiratory movements, which are like the tugging of croup during attacks of dyspœa. Even in the relatively benign forms, after the period of algidity, complications, such as abscesses, gangrene, hæmorrhage, venous thrombosis, etc., are observed during convalescence.

With regard to the treatment, says the author, alimentation must be assured if possible, in spite of the vomiting. Weak chicken bouillon is often better tolerated than milk. When the latter is given, from four to five drops of brandy or rum should be added to every teaspoonful of the milk. As a rule, the child is not able to nurse, and in this case the mother's milk should be given by the teaspoonful.

The treatment consists especially in the use of lactic acid combined with a solution of hydrochloric acid and laudanum. To combat collapse, stimulants should be employed internally and externally.

**Venesection in Opium Poisoning.**—The June number of the *Indian Medical Gazette* contains an article on this subject by Surgeon-Captain D. G. Marshall, of Umballa, in which he states that the value of this mode of treatment is, judging from the slight reference to it in any of the standard works, apparently little known, although it is so efficacious in apparently hopeless cases that it appears worthy of more general application.

It is referred to in Neale's *Digest*, one case being quoted as recorded by Griffin, and Dr. Ogle, in the *Lancet* of May 9, 1892, refers to Professor Reid's experiments on the results of bleeding in cases of poisoning.

This treatment, says the author, is not recommended as applicable to every case of opium poisoning, but it is beneficial in those cases where death is impending, owing to failure of respiratory action due to distention of the right side of the heart, with backward pressure. On the same line of reasoning it has been found useful in chloroform poisoning.

The following case, which came under his care in England, shows, he says, that the method of treatment has practical value:

A woman who had swallowed two ounces of laudanum with suicidal intent was brought to the hospital in a comatose condition. The stomach was thoroughly washed out and hypodermic injections of atropine were administered, but, in spite of these measures, the patient rapidly grew worse; the breathing slowed down to four respirations a minute, and finally stopped altogether. There was a faint pulse at the wrist—and the heart could be felt working in a labored fashion, and the right side was evidently distended.

Artificial respiration was maintained for about five minutes, but with no results, for the radial pulse was imperceptible and there was no sign of respiration; the heart, however, was still acting.

Having heard, says Mr. Marshall, of the beneficial result of bloodletting in opium poisoning, he opened a vein in the left arm, and allowed twenty ounces of blood to escape; he then continued the artificial respiration. In a few minutes natural breathing began again, and in half an hour the woman was sufficiently recovered to be walked about. She left the hospital the next day.

**The Remuneration of Expert Witnesses.**—"A decision of importance to all persons who are liable to be called upon to go on the witness stand as experts," says the *Journal of the American Medical Association*, "has been rendered by the supreme judicial court of Massachusetts in the case of *Barrus v. Phaneuf*, May 21, 1896. The principles which it discusses and lays down apply to medical experts, with full force, although this action was brought by a civil engineer. He had been engaged by the defendant to go into court at a future day and testify for him as an expert in regard to a matter which he had examined as such. This engagement was made about six weeks before the trial. He talked over the matter, and went into court and testified, and during the progress of the trial advised the defendant's attorney in regard to the questions to be asked of himself and of the other witnesses, though he was not asked any questions which called for his opinion as an expert. To further complicate matters, he was, at some time after the agreement was made, regularly summoned by the defendant as a witness, and was paid the statutory fees, and made no objection thereto, and made no claim for extra compensation. Was he entitled to recover any extra compensation as an expert? The defendant contended that he was not, and that if there was an express promise to pay him extra, it was without consideration, and that the witness did no more than he was legally required to do under his subpoena. That a court would be without power to require the attendance of a professional or skilled witness, upon a summons duly served, and with payment of the statutory fees, although he was unacquainted with the facts, and could testify only to opinions, the court declares it would be slow to admit; but such power would hardly be exercised unless, in the opinion of the court, it was necessary for the purposes of justice; and the one summoned would perform all that the court could require of him if he should hold

himself in readiness to be called upon to testify to such opinions as he might have when his turn should come. In this case, however, the court holds that the evidence showed a sufficient consideration to support a promise to pay a reasonable compensation, in addition to the statutory fees, and that the jury was warranted in finding a promise to that effect, or a mutual understanding that the expert was to be so paid. If such promise was made, or such understanding existed, it further holds that the expert's right to recover would not be taken away or lost by his omission to claim or demand extra compensation, or to notify the defendant that he should make such claim, or by his acceptance of the statutory fee without objection, or by the omission of the defendant at the trial to put any question to him as an expert witness, and the consequent omission on his part to testify as an expert. What would have been his right without such promise or understanding, the court studiously avoids stating except as above, though at the same time shows the trend of authorities would be against allowing any extra compensation."

**The Employment of Large Doses of Sodium Bicarbonate.**—At a recent meeting of the *Société nationale de médecine de Lyon*, a report of which appears in the *Lyon médical* for June 28th, M. Tournier related the case of a woman who suffered from an excess of hydrochloric acid in the gastric juice. She had been treated with instillations of silver nitrate, and nutritive enemata, but without beneficial results. A course of sodium bicarbonate was then prescribed and begun with amounts of from 180 to 225 grains a day. No relief having been obtained, the quantity was increased to 375 grains, but this amount also proved insufficient, and no real relief was felt until she reached the amount of 750 grains a day. Even this was increased, and without M. Tournier's knowledge the patient took, during a period of a month, from two ounces to two ounces and a half a day in doses of forty-five grains every fifteen minutes, in milk. During this time, said M. Tournier, there had been no disturbance of any kind and no anæmia, and her weight had increased three kilogrammes. The urine was abundant and presented a feeble alkaline reaction. The intestinal functions were normal.

M. Lépine thought that, in order to tolerate such large doses of sodium bicarbonate, there must be a special receptivity, a pathological condition with exaggerated acidity which should neutralize a part of the sodium. Large doses were incompatible with a normal condition, and it would be dangerous to give them to a healthy person.

**The Technics of Intubation.**—The *Gazette hebdomadaire de médecine et de chirurgie* for June 28th contains an abstract of an article which appeared in the *Münchener medizinische Wochenschrift* for 1896, No. 18. According to the author, Dr. Trumpp, says the writer, extraction of the tube may be easily effected without the aid of an extractor, in the following manner: The physician places himself directly in front of the child, surrounds the child's neck with his hands by placing his thumbs below the cricoid cartilage and his fingers on the nape of the neck, and then exercises with his thumbs a sudden and rather energetic pressure above and behind. This movement provokes an attack of coughing and reflex strangling which drives the tube into or even out of the mouth. This procedure has been employed daily at Escherich's clinic with successful results, and has never provoked the least complication.



## Original Communications.

### SOME APPARATUS FOR THE TREATMENT OF POTT'S DISEASE.\*

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THE controlling principle in the treatment of Pott's disease is rest, or relief from pressure and motion. Posture, fixation, traction, leverage are the means employed to secure it and to prevent deformity. The completeness of the rest must be proportionate to the activity of the disease. But, though Nature does not demand at the same time rest and work, the old bugbear, fear of confinement (or of lack of exercise), which has been responsible for a vast amount of deformity, suffering, and death, itself dies hard. It is well that those of us who, in the treatment of Pott's disease, have made use of prolonged recumbency upon a surface fitted to the patient, and with both pressure and traction, should testify, on all proper occasions, that it is beneficial and not harmful—not even uncomfortable. On a wheel-cot recumbent patients can enjoy the air and sunlight and have their world greatly enlarged while submitting to the best possible conditions of repair (Fig. 1).



FIG. 1.—Four-foot cot.

This cot (Fig. 2) is the result of successive modifications of the wooden one presented at the meeting of this association held in New York in 1892, and of the folding iron cot shown in 1893. The changes were made with a view to simplicity and compactness. It consists of an iron stretcher, carrying a tightly laced canvas, and supported upon rubber-tired wheels in such a man-

ner as to permit any required inclination. Fig. 3 shows the construction of the working parts. It is provided

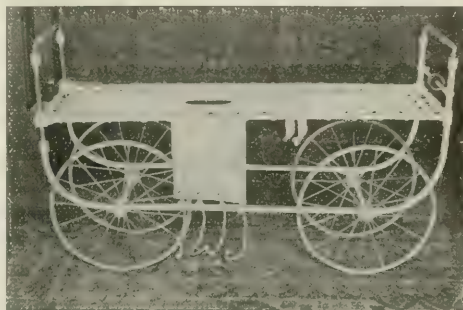


FIG. 2.—Four-foot cot.

at the head end with a pulley. In the canvas is a narrow oval opening for the purposes of defecation and urination. In a cot four feet long—a common size for children—it is six inches by two inches and a half, and its

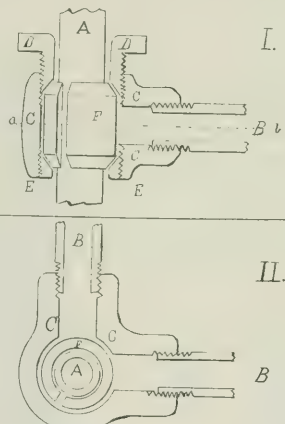


FIG. 3.—Showing the construction of the working parts of a four-foot cot.

- I. Side view. A, upright three-eighth-inch brass pipe. B, side of stretcher, three-eighth inch iron pipe. C, corner casting. D, iron bushing, three-quarter-inch by three-eighth-inch, inner thread reamed off inside; lower, inner edge beveled at twenty degrees; upper edge rounded. E, beveled ring made from a similar bushing, screwed in, cut off, and fastened by a pin. F, split beveled collar of hard rubber. As D is screwed down the collar is closed on the upright, and the frame is held at any desired inclination.
- II. Horizontal section through *ab*. The references are the same. The wickets at each end of the cot are made of eighth-inch brass pipe. The vertical parts slide into the uprights and are secured at any level by a construction like the preceding. The top of the three-eighth-inch pipe is beveled to take the place of the ring E. A three-eighth-inch coupling three-eighth-inch by one-eighth-inch bushing and a hard-rubber beveled and split collar complete the fastening. The rest of the cot is put together by ordinary pipe fittings, and the axles are screwed into simple castings. The sizes of pipe are for a four-foot cot three-eighth-inch; for five-foot, half inch; and for six-foot, three-quarter-inch or inch.

\* Read at the annual meeting of the American Orthopedic Association, Buffalo, N. Y., May 21, 1896.

centre is located three fifths distant from the head of the canvas. It is closed by a flap underneath. In planning



cots for adults, I find that the opening must be made nearer the head, and it is then a safer rule to make each canvas according to the patient. There is also a line of loops on each side, near the upper end, through which



FIG. 1. Polyvinon

pass shoulder straps. The arrangement of pads and straps and the use of the cot have been much simplified.

To prepare a cot for a patient, he is placed upon it so that the anus is at the upper end of the opening, and marks are made on the canvas by means of which the situation of the diseased part of the spine can be determined. He is then removed. Pads from one to two inches thick of boiler felt are laid upon the canvas so as to make a surface conforming to the patient's back. In cervical cases it is particularly necessary that the hollow under the neck be filled. When there is a dorsal or lumbar kyphos a block of padding as broad as the back, long enough to extend from the neck to the buttocks, and having a small slit to receive the tip of the bony prominence, is used. The upper and lower edges of the pad are thinned by cutting to different lengths the layers of which it is composed, and the edges of the slit are trimmed a little. If there is a pronounced lumbar hollow an additional pad is put across under the large one. A folded sheet is placed over the pads from the head of the stretcher to just below the upper end of the opening. This must be wide enough to cover the pads and narrow enough not to cover the loops. A second sheet is placed from the lower edge of the first to the foot of the canvas. This will be more frequently changed. The patient is tied

buckled around the sides of the stretcher. A pillow is placed under the thighs and legs, which are secured by a piece of stout muslin pinned around them and the stretcher. Traction may be made by a head sling (Fig. 5) and weight attached to a cord passing over the pulley, or the head sling may be fastened from the two upper corners of the frame, after the method of

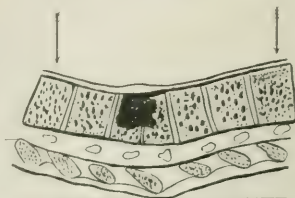


FIG. 6. The force of gravity, exerted as shown by the arrows, tends to separate the bodies at the site of disease.

Dr. Steele.\* The stretcher is sloped for counter traction, or straps from the pelvic belt to the foot of the stretcher may be used for the purpose.

The pressure straps constitute a most important feature. They are buckled around the sides of the stretcher and pass under the canvas at the diseased part of the spine. The amount of pressure can be thus accurately adjusted. The parts above and below by their weight not only cause backward leverage, but, as the spine is resting on the spinous processes and the centre of motion is behind the bodies, actual traction on the bodies is secured (Fig. 6). This is confirmed by the experiments of Dr. Lovett,† presented at the last meeting of this association, in which he shows that patients are longer when recumbent. A mark is made on the canvas at the level of the patient's head to indicate his position. It is necessary that this

should be always the same, in order that the diseased part be kept on the pressure straps. The degree of pressure that can be borne is determined by the appearance of the skin over the part. As a rule, I do not tighten the straps until after a week or more, when under the pressure of weight a shallow trough, which fits the back and affords good fixation, is formed. The patient is dressed in a garment without a back (Figs. 7 and 8).‡ In cervical cases it is better to pin it to the sheet on each side of the neck than to pass the collar behind. Once comfortably fitted to the canvas, the patient should be moved as seldom as possible. A slight turning between two persons, one taking the head and shoulders and the other



FIG. 5. Head slings. *a.* Sayre's. *b.* One made of a single piece of web and a buckle and two rings. A strap may be passed from ring to ring under the chin. *c.* Sling made of a piece of web and two rings. The light A is passed under the chin and the cross B under the occiput. Steele uses a four-tailed bandage. Two of the tails pass up in front of the ears, and two backward to cross under the occiput, as in *c.* (*Trans. of the Am. Orthop. Assoc.*, 1895.)

on. By feeling the lower side of the canvas it may be determined what changes are necessary in order that the entire back be supported. When this is accomplished, web straps are passed through the proper loops under the shoulders and buckled either crosswise over the chest or around the shoulders. The pelvis is secured by a curved canvas belt (Fig. 1) from which straps are

\* *Medical Fortschritte*, St. Louis, February 1, 1891.

† *Transactions of the American Orthopaedic Association*, 1895.

‡ *Ibid.*, and *American Medical Association Bulletin*, December 15, 1895.

the pelvis and legs, will give ample access to the spine. Alcohol and powder should be applied twice daily, and the skin watched for pressure marks. Such cases, even

The upright position is in all cases sooner or later adopted, and a clear conception of the condition of the spine and the possibilities and principles of mechanical support in this position are then essential. The weight of the parts above is by no means all that the diseased bone has to bear. There is also that of the parts which,

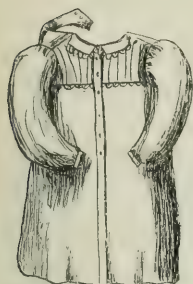


FIG. 7.—A garment without a back, for a recumbent patient.

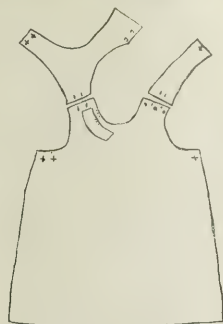


FIG. 8.—Pattern.

though painless, should be handled with great care, and the relations of the diseased parts changed as little as possible. For adults, cots are mounted on two large wheels and two small ones which turn on ball bearings like casters (Fig. 9), and for those children who can

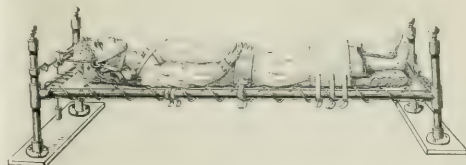


FIG. 10.—Four-foot cot.

though situated below, are suspended from above. The viscera of the abdomen make downward traction on the spine at a much higher level than their own. The upper extremities are, by means of muscles extending upward from the clavicles and scapulæ, suspended from the head and cervical vertebræ. The thorax, its contents, and the abdominal muscles attached to it are also, to some extent, suspended. The diseased spine is subject also to muscular action exerted between the parts above and those

below. By reason of the forward projection of the face, chest, and pelvis, much of this force is applied in a deforming manner, and at a great leverage. It is exposed, also, to constant jar and to strain from the voluntary muscular efforts concerned in equilibration and in the ordinary and necessary motions of either extremity. In addition, there is the great pressure from reflex muscular spasm or Nature's automatic splintage. And the energy required to hold the spine rigid and the lower limbs in a continuous state of elastic tension to break shock, besides producing spinal pressure, is exhausting, and lowers the local and general recuperative powers of the patient.



FIG. 9.—Six-foot cot.

not afford a wheel-cot I have the canvas stretched on a frame with short legs that can be easily lifted about (Fig. 10). To give it a slope, the supports at the foot are shorter than those at the head. The object of having the canvas suspended by its edges, in both cot and frame, is to prevent change in position of the diseased parts of the spine in raising the patient from and replacing him upon a bed.\*

Not only are the adverse conditions of the spine itself enormously increased, but the mechanical possibilities of treatment appear very inadequate. Apparatus can not be applied as are splints to a broken limb. We must act on the spine from a considerable distance. The object sought is to fix the diseased part of the spine, or keep it forward in its relation to the parts above

\* The canvases are made by Messrs. John Boyle & Co., 199 to 207 Fulton Street, New York. The cots, frame, or any other apparatus de-

scribed in this paper, will be furnished by the Orthopaedic Department of St. Mary's General Hospital, Brooklyn. Exact dimensions must be given.

and below, and to counteract the deforming forces mentioned. Those portions of the body surface that are capable of transmitting support are limited. Backward pressure can be exerted on the forehead, sometimes slightly on the chin, on the front of the chest, and on a small area around the anterior superior iliac spines. Vertical support or counter traction may be had from the crest of the ilium, the gluteal muscles, and the posterior surface of the sacrum, when, as is not the case in a child, these parts are sufficiently developed. From this as a base, upward pressure can be exerted on the front and back edges of the axilla, on the chin and back part of the head, and against the under side of a markedly projecting kyphos. It is not only futile, but a decided injury, to make pressure on other parts, and particularly to interfere with the respiratory movements of the chest and abdomen. For a yielding abdomen can not transmit the force applied, and it is possible that limiting normal respiratory motion we may divert its force to the weak place in the spine; and abdominal distention and movement tend to diminish instrumental pressure upon parts where most needed. According to Holden, the respiratory movements of a rib take place, principally, by rotation around an antero-posterior axis drawn between its ends. The greater the curvature the greater the respiratory capacity. In inspiration, most children will be observed to expand the lower chest laterally more than anteriorly. All can breathe in that way. This movement need not be interfered with for spinal support. Indeed, by directly backward pressure and avoiding lateral pressure, the normal curvature and lateral motion of the ribs are conserved. On the other hand, if this rib motion be restricted by deformity or apparatus, or by both, and by abdominal pressure what respiratory movement remains be obstructed, the interference is considerable; and in a patient with a tuberculous disease any interference with respiration is a most serious consideration. The evils of circumferential constriction of the trunk are familiar to every student of elementary physiology, and Pott's disease confers no immunity. The results to the abdominal and pelvic contents are graphically described by Dickinson in his paper on the corset.\* The pelvic organs of little girls (and most of our patients are children) are easily displaced. Protrusions at the inguinal ring have also been observed in patients wearing constricting apparatus. Such pressure contributes nothing to the support of the spine, and its evils are vastly greater than could possibly be attributed to recumbency. When the shape and area of surfaces available for spinal support, their lack of natural padding, their distance from the seat of disease, and the mobility of the intervening parts are considered, the impossibility of giving adequate mechanical protection in the upright position in any but the convalescent stage is apparent. This stage can

be hastened by systematic recumbency as described. The upright position should be assumed, under careful supervision and for slowly increased periods, and only in those cases in which a moderate amount of support is sufficient. All that is possible in this position can be secured without interference with the functions or position of any internal organ.

In treating cervical and upper dorsal disease in the upright position, the trunk is grasped by all available contact as a base from which to keep the head upward and backward. In disease of the mid-dorsal region, also, such traction as is possible is made on the upper mass upward and leverage is applied. That is, forward pressure is made on the diseased part and backward pressure on the spine above and below. In disease lower down, the burden to be supported is so hopelessly great and the pedestal so encroached upon that leverage—forward pressure on the kyphos and backward pressure on the parts above and below—is all that is usually attempted.

In dorsal disease we are dealing, not with the spine alone, but with the thorax of which it forms a part. Disease of the mid-dorsal region has always been regarded as the most unsatisfactory to treat. Various explanations, such as the curve of the spine and the movements of the ribs, have been offered, but it is very largely due, I believe, to the fact that although chest distortion is a conspicuous feature of the developed deformity, the parts played by the ribs and sternum in its development have not been carefully studied and antagonized. The conditions appear to be as follows: Let us take, for example, osteitis of the sixth dorsal vertebra, and for the sake of simplicity regard the bending as taking place in a circular direction around an axis passing at this level transversely through the neural canal. In Fig. 11 the normal relations of the vertebral column, upper and lower ribs, and sternum are indicated by outline and the resulting deformity in black. The spine above the axis describes a curve, at first forward then downward,

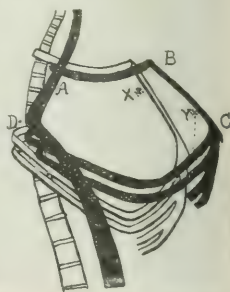


FIG. 11. Diagrammatic.—The apex of the kyphos is really lower and farther back than the same point in the healthy spine; but the development of the deformity is best shown as above.

which carries the centre of gravity of the upper mass forward. To maintain the base of the trunk (the heads of the femora) under it, the part of the spine just below the sixth dorsal vertebra is thrust forward, or, what is relatively the same, the chest is thrust backward on the lumbar spine. The lower ribs are thus tilted upward, and, from their length and normally downward slope, move the lower end of the sternum markedly forward. Were it not for the resistance of the sternum, the an-

\* The Corset: Questions of Pressure and Displacement. Robert L. Dickinson, Brooklyn. *New York Medical Journal*, November 3, 1887.



terior end of the first rib would be displaced downward to some point X, and that of the sixth upward to some point Y. As it is, the former is moved forward to B, and as the sternum turns on this point its lower end and the connecting parts of the ribs are advanced to C. The bone is commonly bent by the force transmitted longitudinally through it. In the normal relation of the parts the downward pressure of weight and muscular action exerted on the head, neck, and upper chest is borne almost entirely by the spine, the arches formed by the upper ribs, sternum, and lower ribs acting as braces. But, as the line of gravity of the mass moves forward, more of the strain is transmitted from the upper dorsal vertebrae through the braces to the spine below. The back support A D is now inclined backward and the front support B C is inclined forward. The upper mass acts as a wedge and tends to spread their lower ends still further, as the legs of a stool are spread by superincumbent weight when not tied in by the rounds. The ribs attached to the lower part of the sternum are stretched antero-posteriorly and straightened, and their relations to the vertebrae into which they are inserted are altered. The lower chest is elongated antero-posteriorly and contracted laterally. The respiratory movements of the ribs are two—upward and by lateral rotation. By tilting upward and by straightening both are greatly impaired. The sinking of the thorax on the abdomen causes diaphragmatic respiration to be also interfered with.

When the deformity is fully developed, the inclination of the spine above the kyphos is so nearly horizontal that pressure to be used on the upper dorsal spine at a mechanical advantage—that is, at a right angle—would have to be applied within the chest (as indicated in Fig. 12

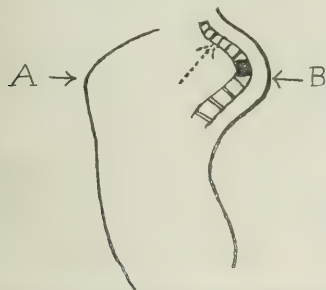


Fig. 12.—Tracing from a case of advanced dorsal disease. The arrows A B show how support should have been applied to prevent the deformity.

by the dotted arrow) and almost vertically upward. The upper front of the chest is also so nearly horizontal that backward pressure can not be made on it. By placing one hand on the projecting sternum and the other on the kyphos, and pressing them strongly together, I have observed in such a case that the breathing became less short and the patient expressed a feeling of relief. There was no attempt to take off the weight, I simply made sagittal compression. The outlines of this figure

are reproduced from tracings of a case of marked dorsal deformity. The direction in which force must be applied to restore the parts to their normal relations, were that possible, shows how it must be exerted upon the normally related parts to prevent such deformity. It is essential that the pressure be applied as indicated by the arrows A and B. Referring again to Fig. 10, if pressure be confined to the upper front of the chest, the forward protrusion of the lower part is not prevented; whereas pressure on the latter exerts, through the lower ribs, a leverage on the spine below the disease, and tends to maintain the normal curvature and respiratory functions of the ribs. It also permits backward pressure at the upper part of the chest to be effectual on the upper dorsal spine. Thus, besides the general principles of support to the spine, the special indications in preventing deformity in disease of this part are antero-posterior pressure between the diseased portion and the front of

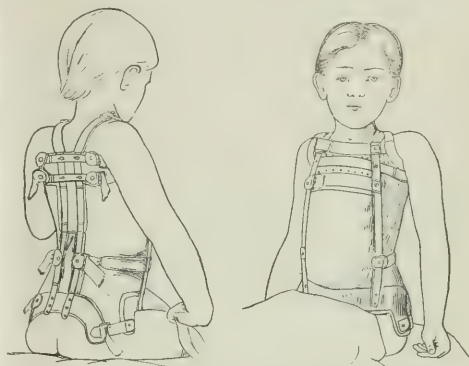


Fig. 13.—A modified Taylor back brace. Fig. 14.—The author's front brace.

the chest, especially at the lower part, and the avoidance of lateral pressure on the ribs. They must be free to curve out laterally and the viscera have space and not be compressed. Upward pressure on the free borders of the ribs also is obviously contraindicated.

For the treatment of Pott's disease in the upright position, I use posteriorly the Taylor brace, with some slight changes (Fig. 13), and anteriorly this rigid brace (Fig. 14). Since its first application, in 1892, it has been modified in several details. Commencing with the lower end, it presents a steel band passing across the abdomen and well around the sides of the pelvis, as low as is possible, without being displaced when the patient sits. The anterior superior spines are protected by thick pads

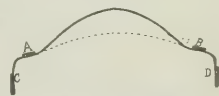


Fig. 15.—Plan of pelvic band of front brace. A, B, uprights. C, D, flat pieces extending downward. The dotted line indicates the line of the abdomen when the patient is supine.

of kersey and leather, and the central part of the band is arched forward so as to prevent pressure

on the abdomen. When the patient is supine there should be a space of one and a half or two inches behind the band (Fig. 16). It is essential that it should bend sharply around the front edges of the ilia, and fit tightly against the sides of the pelvis

for an inch or two; otherwise the skin overlying the spinous processes will become sore. I have recently improved the brace by extending the ends at a right angle downward for one or two inches. This permits the horns of the U-shaped hip band behind to be brought lower, and so increases the length, and, consequently, the leverage of the posterior brace. This leverage is of great importance in all cases where the

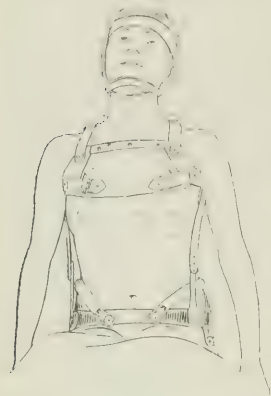


FIG. 16. The front brace modified for a woman or girl.

kyphos can be used as the fulcrum, and the upper mass can be successfully grasped. By means of straps at the ends the lower front band is connected with the hip band of the posterior brace, and the pelvis may, for the purpose of vertical support, be literally clamped between the two, which nearly meet at the sides. At the location of each anterior superior spine a flat upright is riveted at right angles, or, if the abdomen is very protuberant, the uprights are directed outward from the lower band. The curving of the band permits them to be approximated above. They extend upward and inward along the abdomen and chest to the infraclavicular spaces. At the level of the axillæ they are crossed by a flat band which passes in front of the chest and nearly through the axillæ at each end. Three holes drilled in the uprights, three eighths or half an inch apart, will save trouble in placing the band. Or the uprights may be made in two pieces overlapping and fastened by screws, so as to be readily shortened or lengthened. The chest and pelvic bands may also be made extensible. The pelvic bar should be an inch, the others half an inch wide. No. 16 spring steel is a good material for the construction of all parts. These dimensions are for children. It will be convenient to have the separate parts covered with leather and then fitted and fastened together. In measuring, one is apt to locate the chest band too high as well as to make the entire front brace too tall. It is very instructive to note how far the anterior chest wall will, notwithstanding all possible pressure, descend when in the upright position. It confirms what has been stated concerning the mechanical advantages of the supine posture with reference to traction, and demonstrates the hopelessness of

attempting more with vertical traction than to partly support the head and take off some of the weight of the upper extremities. At the upper ends of the uprights are straps which pass over the shoulders to buckles on the shoulder pieces of the posterior brace, and from the ends of the chest bands straps running backward buckle to the crosspiece. This crosspiece extends nearly to the posterior edges of the axillæ. Placed behind the upper part of the front brace is a stiff leather perforated chest piece, which is secured to uprights and covers the front of the thorax as far down as the ensiform cartilage. I usually have this fastened by the same rivets which fasten the chest bar to the uprights, and support the upper and lower edges of the leather by straps and buckles from upright to upright. Near the lower ends of the uprights are padded web straps which extend over the crests of the pelvis to the buckles on the spinal uprights behind. Their utility is dependent on pelvic development. They and the hip band of the posterior brace afford all the vertical support anatomically possible. The ends of the bar passing through the axillæ may be padded as crutches, or from the ends of the shoulder pieces the regular, round, padded shoulder straps of the Taylor brace may pass through the axillæ and back to a second crosspiece placed just below the first. The perforated chest piece can be made to fit accurately by binding it, while wet, to the chest, oiled silk being interposed. This is not usually necessary.

In high dorsal and cervical cases I prefer, for vertical support, the Taylor head piece without the ball-and-socket joint, the slipping of which is a constant annoyance. In place of the joint I use a pivot, flattened below, to slide in a keeper fastened to the uprights. This pivot has a soft neck which can be bent easily in any direction, and is, I believe, the original device of Dr. C. F. Taylor.

Thus constructed, this combination of anterior and posterior braces constitutes a skeleton support to which parts may be added to meet the individual requirements of a peculiar case or the special views of the surgeon. Should a greater area of lateral support be required, it can be secured by a series of straps from the anterior to the posterior uprights. I think, however, that in Pott's disease, lateral curvature from muscular spasm is best treated by recumbency, and lateral pressure on the chest should be avoided. Although all available space has been utilized for the application of both traction and leverage in diseases of any part of the spine, it is applicable especially to dorsal disease. When the spine above the kyphos is still nearly vertical, the backward pressure exerted at the top of the sternum and the upper ribs serves to directly repress its forward tendency, and by pressure at the lower part of the sternum and connecting ribs the forward protrusion of the front of the chest is antagonized.

An illustration of how this apparatus may be modified to meet diverse mechanical requirements is found in its application to girls and women, and another in its

use in those cases of extreme deformity of chest and spine previously described. That shown in Fig. 17 was made for a woman with high cervical disease. The area of desirable pressure being restricted by the breasts, the leather chest piece is limited to the upper part of the thorax. Instead of placing the steel band directly across the chest, it is shortened, placed just under the clavicles, and at each end connected with a broad, curved piece of sheet steel extending through the axillæ. The uprights have been located farther back, and the front ends of the padded straps, which rest on the crests of the ilia, have been transferred to the pelvic band. This attachment and the extension downward of the ends of the band, previously described, are suggestions of my colleague, Dr. J. M. Clayland. The lower edge of the leather chest piece is secured to the steel on either side by strap and buckle. In dorsal disease the leather chest piece is extended downward in the middle and connected with the uprights by a steel bar arching over each breast, and having at its ends straps to buckle around the uprights. It is not well to fasten the brace rigidly together in too many places because it interferes with modification.

For the case outlined in Fig. 12 the posterior uprights reach only as high as the summit of the kyphos and the front brace to just above the protuberance of the sternum (Figs. 17 and 18). No part of the apparatus pass-

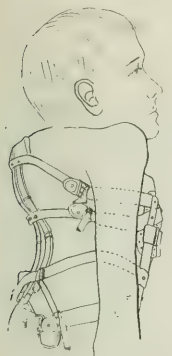


FIG. 17.—The front and back brace for a case of advanced dorsal disease with chest deformity.

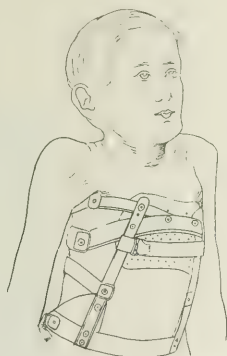


FIG. 18.—The front brace for a case of advanced dorsal disease with chest deformity.

es over the shoulders, and care is taken that the ribs be not compressed laterally. Two crosspieces were placed in the posterior brace and thus two connections made with the anterior. Although the upper crosspiece tends downward to the axilla the pull upon its end is forward. A small pad was placed on the projection of the chest, and antero-posterior traction made between it and the dorsal projection. The prominent hips are utilized for vertical support exerted against the lower side of the kyphos. There is no pressure exerted above the kyphos, nor above the apex of the chest deformity. The leverage

of a posterior brace is not applicable because grasp on the upper spine is not possible. It had sunk into the chest so far that it can not be successfully pushed against by pressure on the upper ribs or pulled against by traction on the head, and no adequate base for vertical traction on such a mass as that above the kyphos exists.

For the sake of clearness, the braces are shown as if applied to the skin. They are worn over an undershirt. It will be found convenient to cut the garment all the way down the front and put this part behind. The patient should be laid on his face twice daily, the back brace removed, and all pressure points bathed with alcohol and water and dusted with talcum or some such powder. The brace should never be taken off or put on when the patient is upright.

To diminish the concussion of walking I use shoe heels of soft rubber. They are to be attached without nails and have the front edge beveled to prevent catching.

The apparatus described can be made by any blacksmith, and with a pair of wrenches can be fitted and modified to meet the changing needs of a case. While some time and care must be devoted to its application, the mechanical indications once thoroughly understood, this is not so difficult as it may seem, and when the serious nature of the disease is appreciated, the first consideration is that of adequacy, and the last that of ease to the surgeon. In all orthopædic cases, particularly in Pott's disease, there is to be recognized a broad working principle that an apparatus is simply a tool to be designed and used with intelligence. The surgeon owes to the patient a careful determination of the conditions present. They may usually be met by the simplest means, and the duty of meeting them is the surgeon's.

To refer a patient with tuberculous disease of the spine to an instrument-maker who knows nothing of the intrinsic nature of the case is as great a crime as to send a case of typhoid fever to an apothecary. The law protects the typhoid but not the tuberculous. When it does the latter, the sight of a patient whose diseased spine, entirely unable to bear its own strain, is further burdened by a glittering complication of steel and leather, will be no more.

498 BEDFORD AVENUE.

## THE RAPID BACTERIOLOGICAL AND CLINICAL DIAGNOSIS OF DIPHTHERIA.

By HENRY KOPLIK, M. D.

FROM a clinical standpoint the rapid and satisfactory diagnosis of diphtheria, fortified by bacteriological culture test, is of the utmost importance. It is highly desirable in every case to satisfy our minds, as early as possible, whether the disease we are dealing with is that in which the Klebs-Loeffler bacillus is present or in which we have simply a streptococcus diphtheria or, if possible, a mixed infection. Clinically it has been am-



ply demonstrated that the types of angina in which the Klebs-Loeffler bacillus is found do not include simply the membranous formation. We have all gradations of angina, from the throat in which membrane is absolutely absent, to that in which the fully formed membrane exists (Escherich, Koplik, Feer, Park, Flexner, Welch). With our present methods of therapy and the demands of prophylactic hygiene, it has become more and more imperative to shorten the time within which a positive bacteriological diagnosis of the nature of a given case of angina or membranous formation in the throat may be made (true diphtheria of Loeffler, or diphtheroid angina). It is also desirable to have a simple method, a rapid and easily attainable means of diagnosis, within the reach of the general practitioner, not only in out-of-the-way communities but even in large cities. In the latter places, in spite of the presence of well-equipped health stations, economic and hygienic reasons are tending to compel every physician to acquaint himself with the technique of the early diagnosis of diphtheria.

I have made a series of studies with the ordinary serum tubes with a view to fixing the shortest space of time within which a diagnosis of true Loeffler diphtheria may be made beyond a reasonable doubt. I am now able to fix this time by tube culture at two and a half to three hours from the time the tube-culture medium is placed in the incubator. As is well known, if we take a piece of membrane or secretion from the tonsils or fauces of a suspected case of diphtheria and spread this in the usual way between two cover glasses, stain with Loeffler's blue solution and examine, we see, if the case is one of Loeffler diphtheria, a few isolated bacilli here and there having the characteristic form and stain of the Loeffler bacillus. In a vast number of cases the diagnosis, even if membrane is present, remains a matter of speculation on account of the paucity in the numbers of bacilli and the absence of the characteristic grouping of these bacilli, to which we will refer at length. In cases of diphtheria of the larynx, or even of the fauces, in which there is absolutely no visible membrane, a diagnosis by cover glass is impossible. It is in just such cases that an early and rapid diagnosis is most desirable. Moreover, I am convinced that the methods now most in vogue, by which the culture tubes are allowed to remain in the incubator fully eighteen hours or twelve hours, give the ubiquitous streptococci and staphylococci sufficient time, at an elevated temperature and such a favorable medium as blood serum, to outgrow the bacillus diphtheriae in numbers, and thus obscure the final diagnosis if, indeed, it does not make it impossible. It is true, as Loeffler first showed, that the serum remains the best medium for the cultivation of the bacillus diphtheriae, for on this medium alone can the bacillus hold its own against the growth of other bacteria. Yet there are many cases in which we only succeed in obtaining a relatively small number of the Loeffler bacilli on our swab, as compared with the streptococci, and in the

serum tube. It is just in these cases, as will be seen, that the early diagnosis shows the bacilli to be present, whereas after twelve to eighteen hours the streptococci or staphylococci will have outgrown them and obscured the diagnosis. This must account for the number of cases in which no result is attained by the old methods in which pronounced membrane is present in the fauces.

As has been intimated, the medium which I have employed in my studies to cultivate the bacillus diphtheriae for clinical diagnosis is blood serum, for after all has been said it is the most convenient and certain medium, and may not be easily replaced in the future by anything more favorable to the growth of the bacillus diphtheriae. During the first hours of the sojourn of the serum-culture tube in the incubator it can be seen that the bacillus diphtheriae not only thrives but does this at a rate exceeding that of the other bacteria. But the streptococci present in any given case must vary largely. Therefore, in the early stages of the culture, even if the streptococcus in material numbers surpasses that of the bacilli, the bacilli increasing in numbers still can be easily diagnosticated. Later on, if the bacilli are few in number, the streptococcus growth spreads so rapidly over the surface of the serum as to obscure or cover the bacilli in certain cases.

The sterilized swab on the end of a stout wire, as now in general use in New York, is the most practical means of taking the specimen of secretion or membrane from the throat.

**THE INCUBATOR.**—As an incubator, a small water oven is used, the interior chamber of which measures  $4 \times 5 \times 6$  inches—

just large enough to accommodate small or large test tubes. The whole is mounted, as shown in the accompanying cut, on an ordinary retort stand. It is supplied with a thermometer which is fixed in the central opening and shows the temperature of the interior. It may be supplied with a small thermometer at the lateral opening showing the temperature of the water, but this is hardly needed. It will be seen that the oven



is of the most primitive construction, and can be obtained in all supply stores; it is not armed with an exter-

nal felt or asbestos coating to prevent radiation, as the short period of its use scarcely calls for this precaution. The simplicity will speak for its use in the physician's office laboratory, especially as it can be taken apart and put up at a moment's notice. To prepare the oven for use, it is filled with water, or kept so prepared; the temperature of the internal chamber is raised rapidly to 37°–38° Celsius by means of a Bunsen flame—this takes about five minutes; as the temperature reaches 37° the flame is taken away, for the temperature continues to mount to 38° C., and at this point a small oil lamp, as shown in the cut, replaces the Bunsen flame. The lamp, turned quite low, will maintain the internal temperature quite constant at 38° for any length of time. For three hours' heating we need scarcely disturb the flame, as it takes care of itself. For longer periods it may need occasional watching.

**METHOD OF PROCEDURE.**—The patient is placed facing the light. A tongue depressor having brought the fauces into view, the sterilized swab is rubbed gently over the suspected membrane or patch in the throat, or even the inflamed tonsils where no membrane exists. The swab is then carefully and evenly rubbed on the slanted surface of the blood-serum culture medium in the test tube.

The inoculated tube is then placed on the floor of the oven in a horizontal position. This is done in order that the glass tube and culture medium may become rapidly warmed to the temperature of the internal chamber of the incubator. If this culture tube is taken out at the end of two hours and a half, we can see by means of a magnifying glass that the surface of the serum has already become coated with a distinct growth of minute bacterial colonies, both in the Loeffler bacillus cases and those cases in which streptococci or staphylococci are present. At this early stage all the colonies, whether streptococcus or bacilli colonies, have the same transparency, and can not be differentiated as they can after twenty-four hours' or eighteen hours' growth, when the colonies of the bacilli of Loeffler have a whiter appearance as compared with those of the streptococci.

At the end of four hours the growth on the surface of the serum is perceptible even to the naked eye. It can be perceived if the serum is held between the light and the eye as a thin film on the surface of the serum, if the latter is transparent enough. At the end of five hours the growth is a very palpable one. From a clinical standpoint the culture gives diagnostic and very satisfactory results when examined at the end of two and a half to three hours. These results are not improved upon, as will be shown by the results obtained by a longer sojourn in the incubator. The bacteria have only increased in numbers. In some cases it will be shown that to wait puts us at a distinct disadvantage.

The surface of the serum, which has been taken out of the incubator at the end of two hours and a half or

three hours at the latest, is now carefully scraped with a sterilized platinum wire bent at its extreme point into a minute crook. The scraping is made in a longitudinal direction and should include, if possible, all the surface where we think the growth has occurred. No attempt is made to pick out any colonies. The scrapings are then spread on a cover glass with a drop of water, in the usual manner. The specimen is dried in the flame and stained with the Loeffler alkaline blue.

**THE OPTIMITY OF GROWTH OF THE KLEBS-LOEFFLER BACILLUS.**—It has been shown by Roux, in his very early work on diphtheria, that the bacillus diphtheriae attains its greatest luxuriance of growth in artificial media below the temperature of 39.5° C. At this temperature, however, and above it, the bacillus shows a diminished vigor, and in a few days it ceases to grow. At 40° the retarding effect of the elevated temperature is more distinctly apparent.

In my studies I found that the best results are attained if the temperature of the internal chamber is kept ranging from 37° C. to 38° C. Above this temperature the serum does not show a satisfactory growth of bacilli, and these bacilli show the swollen and clubbed forms more distinctly. The involution forms are more common at the temperature of 40° or above. The growth, however, of bacilli is less vigorous than that of the streptococci or staphylococci at 40° or 41° or 42° C. The method, therefore, of procedure is to force the Loeffler bacilli to increase rapidly in numbers at a temperature corresponding to their optimity of growth, 38° C.; not to overstep this point, and yet not work below 37° C.

#### CLASSES OF CASES IN WHICH THIS METHOD HAS BEEN FULLY TESTED.

**CLASS A: CASE I.**—Laryngeal symptoms, no visible membrane, laryngeal cough and breathing. Male infant, a year and a half old, sick for three days with croupy cough and breathing. Retraction at each inspiration of the episternal notch and peripneumonic groove; consolidation of the apex of the left lung (pneumonic); no membrane. Culture in incubator an hour, no diagnosis; culture in incubator two hours, streptococci; culture in incubator four hours, groups of Loeffler bacilli in abundance. Tube in incubator eighteen hours: the streptococci had overgrown the bacilli so that the latter were not apparent, as in the four-hour specimen. Thus, between the second and fourth hour bacilli were produced in sufficient numbers to enable a diagnosis.

**CLASS B. LACUNAR DIPHTHERIA OF THE TONSILS: CASE II.**—Boy, aged five years and a half, sick with fever; croupy cough for three days; tonsils enlarged; the lacunar plugs evident; no membrane. Some of the plugs quite large. Culture in incubator three hours: almost pure culture of Loeffler bacilli; culture in incubator eighteen hours (overnight): bacilli only more abundant.

**CLASS C. MEMBRANOUS CASES: CASE III.**—Boy, aged three years; yellow-white membrane on the left tonsil; no other history. Culture in incubator an hour, no positive diagnosis; culture in incubator two hours,

abundant Loeffler bacilli; culture in incubator four hours, abundant Loeffler bacilli; culture in incubator eighteen hours, streptococci more abundant, yet bacilli abundant also.

CASE IV.—Boy, five years and a half old, has been ill three days with symptoms of a severe sore throat. Right tonsil is covered with a grayish coating. Culture in incubator two hours and a half, pure culture of Loeffler bacilli; culture at end of eighteen hours, same bacilli, only more abundant.

CASE V.—Boy, three years old, has been ill only one day with fever and a sore throat. Both tonsils are covered with a greenish membrane. Tube in incubator at 41°-42°, after three hours we find Klebs-Loeffler bacilli in abundance. There are numbers of involution forms—swollen, club-shaped bacilli of uneven stain. Culture after eighteen hours showed that the bacilli had been outgrown by the streptococci; no bacilli found in specimens examined.

CASE VI.—Female infant, a year and eight months old, ill one day. The left tonsil coated with a greenish membrane, but slight adenitis. Culture in incubator two hours and a half, almost a pure culture of Klebs-Loeffler bacilli, few chains of streptococci; culture after eighteen hours (overnight), diphtheria bacilli predominant, few streptococci.

CASE VII.—Male child, two years and a half old, ill one day. Both tonsils covered with a greenish membrane, slight adenitis. Culture in incubator two hours and a half, Klebs-Loeffler bacilli in numerous groups, few streptococci; culture after eighteen hours, Klebs-Loeffler bacilli still more abundant, streptococci few.

CLASS D, CASES OF ANGINA WITH THE EXANTHEMATA: CASE VIII, MEASLES.—Female child, three years and a half old, just recovering from measles, pigmented mottling of skin still to be made out. For the past three days has had a croupy voice and cough. Tonsils enlarged but no membrane to be seen. Culture in incubator two hours, streptococci; culture in incubator four hours, streptococci; culture in incubator eighteen hours, streptococci.

CASE IX, SCARLET FEVER.—Female child, four years and a half old, has been ill for the past three days with slight diarrhoea and vomiting. There is a febrile movement; a slight efflorescence on the upper part of the chest; a marked tonsillitis, with a membranous formation, on the left tonsil. Diagnosis: scarlet fever and diphtheria. Culture tube in incubator two hours and a half, streptococci; culture tube in incubator four hours, streptococci; culture tube in incubator eighteen hours, streptococci.

CLASS E, CASES WHICH ARE NOT CHARACTERISTIC: CASE X.—Female, seven years old, has been ill with symptoms of angina one day. There is a yellow plug quite large in the left tonsil. Culture in the incubator two hours and a half, staphylococci; culture in the incubator eighteen hours, staphylococci; no bacilli in early or late culture.

CASE XI.—Female child, two years and three months old, sick for three days with a nasal discharge and sore throat; tonsils quite large; uvula coated with a hazy, bluish pellicle at the base; no distinct membrane; test taken from tonsils and uvula. Culture in incubator two hours and a half, streptococci; culture in incubator four hours, streptococci; culture in incubator eighteen hours, streptococci.

CASE XII.—Male infant, thirteen months old, has, enlarged tonsils and streaks of yellow mucus on the

tonsils; no distinct membrane. Culture in incubator three hours, streptococci; culture in incubator four hours, streptococci; culture in incubator eighteen hours, streptococci.

CASE XIII.—Female, aged five years, has for some days past had a discharge from the nose. There is a bluish-white discoloration inside the right nostril, like a thin pellicle. Tonsils show lacunar plugs, left tonsil a grayish coating of mucus. Cultures from nose and throat in incubator two hours and a half, streptococci; culture in incubator eighteen hours, streptococci; no bacilli found.

CASE XIV.—Female child, three years old, has been ill with cough and sore throat three days. The left tonsil shows a yellow spot; no distinct membrane. Culture in incubator three hours, streptococci; culture in incubator four hours, streptococci; culture in incubator eighteen hours, streptococci.

CLASS F, SURGICAL WOUND DIPHTHERIA: CASE XV.—Female child, three years old, suffering from a large granulating surface on the left buttock, the result of a severe burn. This surface had become coated with a thick, yellow, tenacious material, in some places dry and of a greenish hue; in places it looked like a pseudomembrane. Culture tube in incubator two hours and a half showed a very luxuriant growth of bacilli not in any way resembling the Klebs-Loeffler bacilli.

DIAGNOSIS.—In order to fix a diagnosis, we have required in all cases, in addition to general character of size, etc.—

(a) An abundant bacterial growth, not isolated bacilli.

(b) The characteristic grouping of the Klebs-Loeffler bacillus in groups of pairs or fours, side by side, or more so arranged.

(c) Peculiarities of unevenness in staining with Loeffler alkaline solution of methyl blue.

(d) The presence of involution forms, club shapes, etc.

If the reader will refer to Cases I and V he will see that the contention of the writer in the first part of this paper, concerning the desirability of making a diagnosis early in the culture growth, is well founded, especially in cases (as Case I) where no characteristic membrane was present in the fauces. Here it must have occurred that but few bacilli were introduced by the swab into the serum tube as compared with the relatively enormous streptococcus material on the swab. The tubes examined early showed quite plainly, and without any reasonable fault, distinct groups of Klebs-Loeffler bacilli, fully convincing for a clinical diagnosis. These same tubes, examined after a prolonged incubation, showed streptococci or other bacteria. The bacilli, if present, could only be found by prolonged search. The streptococcus material was clearly so abundant that though starting on an equal basis, or rather at a disadvantage, it had finally at an advanced temperature and additional time overgrown the bacilli.

Our method, which will apply to the difficult as well as the apparent cases of diphtheria, is to force the in-



crease in number of the Klebs-Loeffler bacilli at the highest temperature favorable to them, 37° to 38° C., and to examine the culture tube two hours and a half to three hours after placing in the incubator. The streptococci and staphylococci and sarcinae have then as yet not attained considerable growth, and the Klebs-Loeffler bacilli, if present, can easily be found.

66 EAST FIFTY-EIGHTH STREET.

## THE CONSERVATIVE TREND.\*

By JABEZ N. JACKSON, A.M., M.D.,

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A CRITICAL review of the progress of surgery during the past year impresses one with the fact that it has been a period not so much of innovation and discovery, but rather one of deliberation and development. The work of the past decade in surgery has been both voluminous and brilliant. The dawning of the new era of antiseptics and asepsis has been followed by most startling achievements. The danger of sepsis and its correlating conditions, which ere this time rose as a black nightmare before the vision of Ambition, had limited surgery to a comparatively narrow part of the great science of healing. Before the immortal discoveries of the great Sir Joseph Lister, however, in one moment the forbidding walls were laid low. Fields of investigation hitherto looked upon only as *terra incognita* now became the scene of busy activity in surgery. Pathological conditions which had previously baffled the wisest counsel and most ingenious devising of medicine now invited the efforts of the new surgery. Enthusiasm naturally ran wild, and with neither chart to guide nor theory to control, experimental surgery began its new career. Before each aspiring surgeon lay open rich fields of unexplored wealth, with visions of fortune and eternal fame awaiting his command. Each man a pioneer and none a guide was truly an enticing opportunity. The work of the past decade has naturally, therefore, been more fraught with discovery than that of any which had gone before—nay, perhaps, than that of all which had gone before—and gives it rank in history as the golden age of surgery. Many of its achievements have brought inestimable good to the human race, and paved the way for surgery to its recognition as one of the grandest and noblest of all the sciences and arts.

It is not my purpose in this paper to detract in the least degree from the high measure of praise and commendation due to the surgery and to the surgeons of the decade that is gone. As, however, the explorer of all new lands, unguided by experience, commits errors apparent to his retrospection, so surgery in its new work has with enthusiasm advanced some doctrines which its

present wisdom and experience must lead it to discard. The collection of data must precede the classification and establishment of any true science or the enunciation of fixed principles arising therefrom. These years which have gone before, therefore, have been invaluable in the collection of vast elements of advanced truth.

The past year, though indeed largely barren in new exploration, must likewise be considered as time most wisely spent in the critical analysis of the facts already adduced and in the deduction of sound principles for future work. This is the time of reckoning, and we should now be able to in a measure weigh our discoveries and ascertain the true relation of surgery to the problems of human life and human happiness. The result of these deliberations has demonstrated to us many excesses of our zeal and led to a decided trend toward conservatism in surgery; not that conservatism, however, which but masks the face of ignorant inactivity, but a truer and higher conservatism which puts life first, then function, and finally form.

In the limited confines of this paper it would be manifestly impossible for me to indicate the scope of this conservatism in all the departments of surgery. I shall therefore confine my remarks to some of its applications in various affections of the great cavities, since it is in this realm that radicalism has been most marked and has done the greatest damage as well as the greatest good.

### BRAIN SURGERY.

We are to-day just emerging from an inundating tidal wave of brain surgery. Within the past few years there has been scarcely a pathological condition to which the brain is subject that has not been submitted to the trial of operative surgery for its relief. Medical skill had for years exercised its best efforts for the cure or control of diseases of cerebral origin, and, in a vast majority of conditions, with but limited or no success. With great expectation and hope, therefore, the profession turned its thoughts to the possibility of relief by surgical measures. In this department of work has been enlisted the services and talents of many of the most distinguished members of the brilliant mass of modern surgeons, aided and counseled by the most eminent neurologists throughout the world. True it is these labors have brought to us knowledge of inestimable value. Cerebral localization and an accurate understanding of much of the physiology and physiological anatomy of the various portions of the brain are achievements which have placed medicine upon a scientific and accurate basis in the diagnosis of cerebral pathology, and shall forever stand as a brilliant record to the credit of brain surgery. But how disappointing, alas, have been all our efforts when viewed from the standpoint of therapeutic value!

EPILEPSY.—The possibility of relieving the distressing and heretofore largely hopeless cases of epilepsy, for instance, how eagerly and even enthusiastically it was embraced! The theory that all epilepsy of cerebral ori-

\* Address as Chairman of the Committee on Progress of Surgery of the Missouri State Medical Association, at Sedalia, Mo., May 20, 1896.

gin was attributable to local excitation, and that the removal of the offending cause would insure a disappearance of its ensuing clinical manifestations, seemed indeed logical, both in its premises and in its conclusions. All forms and degrees of epilepsy, whether general or focal, have been, therefore, subjected to varied operative procedures. The temporary benefit following nearly all operations for a short time led us at first to believe that we finally had found the happy solution of this vexatious problem. How limited, alas, have the ultimate results proved our power! In general epilepsy it was soon demonstrated that nothing is to be expected from surgical intervention. This, however, has occasioned no great surprise, as little rational hope was ever entertained for this class of cases. Even in focal, cortical epilepsy, however, dependent upon a distinct and localized lesion susceptible of removal, the history of our work shows a sad lack of permanency in results. As Eulenbarg says: "By the excision of an area of the cerebral cortex the attacks may be made to stop for a short time; but they return after a while." Von Bergmann further asserts, that "only those cases of cortical epilepsy are cured by trephining which are due to tumors, especially cysts, which are often the results of intrameningeal exudations due to traumatism over or within the circumscribed motor area." Nancrede also affirms that his experience, like that of Horsley, Keen, and other surgeons, has demonstrated a lack of permanency in results, and looks upon the removal of the discharging lesion in cortical or Jacksonian epilepsy as a merely palliative procedure. He further observes that "the earlier the operation is done after disease has become established, the longer the immunity," and adds that "it is possible that if trephining were resorted to early, the operation in a few instances might prove curative, if a reliable method were devised to prevent the inevitable scar, and the adhesions between the brain and its meninges." Universal experience, however, demonstrates that after degeneration of nerve substance has set in, it is too late for surgery.

We may remove the primary cause; but the degeneration, which is the secondary and efficient cause of epilepsy, is beyond our control with present methods. One vastly important observation, however, has been impressed upon the surgeon's mind by his experience in the surgery of epilepsy—namely, that a large percentage of the cases of epilepsy are due to remote traumatism of the skull, either unrecognized at the time or, if recognized, improperly handled. The significance of this observation should not be overlooked in dealing with any injury about the head, and I confidently believe that the true conservative surgery of traumatic epilepsy is the radical surgery of the trauma. With Lanphear I can quite agree in the aphorism that "the way to cure traumatic epilepsy is to prevent it."

IMBECILITY AND IDIOCY.—The operative treatment of imbecility and idiocy has also proved a complete failure. As Dana has aptly said: "This operation was origi-

nally devised on the theory that by cutting open the skull of the microcephalic child, opportunity was given the brain to grow. This theory, which was never substantiated by facts and never held by any experienced neurologist, has been, of course, overthrown. . . . What the operation does is this: It has a profoundly disciplinary effect upon the idiot. . . . The operation of craniotomy upon children in institutions attracts the attention of nurses and of all the medical officers, and the children get more care and more stimulating words of help in various directions. I would repeat, therefore, that it is in my opinion largely due to its pedagogic influence that an improvement in these cases takes place, and that the operation is allied in its effects to a severe piece of castigation." Many surgeons have, however, justified and praised this character of work on the ground that, in view of the absolutely hopeless and practically helpless condition of these unfortunates, their lives were but a burden to their friends and a mere blank to themselves.

The moral side of the question has been apparently lost from view in our excessively utilitarian tendency. In his masterly address on surgery before the recent meeting of the American Medical Association, Semm very beautifully and forcibly draws attention to this subject in the following language: "I am free to confess that I have never been able to muster my courage to attack the skull of a poor microcephalic child, because I have always regarded the operation as useless in promoting brain development. The responsibility of the surgeon is not limited to the defective mental development of the child nor the importunity of the parents in demanding an operation at all hazards. The surgeon should stand guardian over such a charge, mindful of the limits of the art of surgery. Have we a right to estimate human happiness? The driveling idiot has many enjoyments that you and I know nothing about. His responsibilities to God and man are limited and his existence on earth is a long, happy dream, which only ceases when the soul leaves the imperfect body and returns from whence it came, where mental distinction is unknown."

#### ABDOMINAL AND PELVIC SURGERY.

In abdominal surgery, perhaps, the most brilliant advances in operative work have been recorded. The surgery of this cavity has been simply marvelous when we consider the short time in which it has all been accomplished. The invasion of the abdomen prior to the enunciation of the principles of antiseptics was a venture hazarded only under conditions of most exacting necessity, and then with fear and trembling by even the boldest of surgeons. How marvelous the change, when now the operation is of almost daily occurrence in the practice of surgeons of eminence, and by many declared a safe and wise procedure even for exploration and diagnosis! Has not our enthusiasm here also carried us beyond the limits of scientific rationalism, and made surgery in many

instances more a matter of mechanical dexterity than of mature judgment and wisdom?

The present trend of surgical opinion certainly appreciates this as a fact. While the conscientious surgeon should not now hesitate to open the abdomen under any circumstances of accurate indication, yet he must, if he be true to the teachings of experience and honest in his relations to his reliant patient, remember that the opening of the abdominal cavity is not absolutely free from much danger even in simple cases in the hands of trained operators, and under strictest precautions. The old axiom, "Be sure you are right and then go ahead," is worthy the memory of the scientific-surgeon even to-day. Let us be thankful that the brain is once more to be recognized in surgery and not the hand alone.

**APPENDICITIS.**—From the many operations within the abdominal cavity I have singled out appendicectomy for a brief consideration; not because it is more important than many others, but because herein radical surgery has gone to its absolute extremes and been thoroughly tested and discussed. Just what is the proper relation of surgery to the inflammatory affections of the appendix is, in my judgment, still an open question. The insidiousness of the disease, its manifold aspects clinically, the uncertainty of the differentiation of its various forms, and the impossibility of foretelling its course, render a scientific and fixed stand impossible in the light of our present knowledge. Unfortunately, the mass of clinical observation in appendicitis scientifically recorded has been from cases surgically treated. This aspect of the disease has therefore been carefully weighed. A corresponding amount of evidence regarding the non-surgical treatment is not obtainable. True, appendicitis must have been treated for many years medically, before the surgery of the appendix was ever introduced. At that time, however, the pathology of this condition was practically unknown, and its differentiation from other conditions, such as general peritonitis, obstruction of the bowels, fecal impaction, typhoid fever, etc., was so utterly obscure that accurate data were never had, and retrospective diagnoses and records are utterly unreliable. Since its recognition as a distinct disease, on the other hand, the fashionable treatment has been so largely surgical that we are just now beginning to acquire medical statistics for scientific comparison. The result of these researches is an unmistakable trend toward conservatism. A few years ago the almost universal doctrine was "surgery alone and surgery immediately." It is to be hoped that we will never drift back to the old do-nothing course. A judicious selection of cases, however, and a correct decision as to the time for operation in the various forms, are worthy of thought and honest discussion. Says Hunter McGuire, in a recent paper on this subject: "I am not always in a great hurry to operate, but I am inclined to wait for the more acute symptoms to wear off, and operate, if at all, after suppuration has taken place or during the quiescent stage be-

tween the attacks. I wish my voice was strong enough just here to call a halt to the men who say, 'Operate at once—not this afternoon, or to-morrow, but now, in all cases when the disease is recognized.'" Concerning the class of cases for operation, Herbert W. Page says: "Increasing experience shows that the affections of the appendix which call for surgical intervention fall into two main classes: (1) those in which there is perforation by a concretion, and (2) those in which the appendix has had its lumen temporarily obstructed by kink or cicatricial contraction, so as to cause retention of mucus and feces, which lead to inflammation in and around it. The former cases are the more serious and call for early operative measures in order to evacuate local collections of pus; the latter are to be dealt with in periods of quiescence, when the disturbance of adhesions is less likely to be dangerous, and aseptic conditions can be more readily secured."

Senn very tersely summarizes his position in the following words: "The custom followed by many American surgeons, to remove the appendix in all cases in which a diagnosis of appendicitis is made, is a very harmful one. The removal of the appendix should be limited to (1) those cases in which during the first attack symptoms arise which portend danger to life, and (2) to relapsing appendicitis. Some cases of appendicitis yield to medical treatment, and in a large percentage of such cases the patients remain free from a second attack." These expressions suffice to indicate the judgment of some of our best men both at home and abroad. There are, however, many other surgeons of unquestioned ability who still retain radical views. A sound conservatism is undoubtedly desirable and will soon, I believe, be unchallenged. I have no sympathy, however, with the willful ignorance of those who state that ninety per cent. of all cases of appendicitis will get well without surgical intervention.

**EXTIRPATION OF THE UTERUS AND OVARIES.**—A few years ago I heard an able gynecologist say that "the only gynecology was surgical gynecology." His statement was in pretty accurate accord with the work of the gynecologist of that time. The long-established customs of medical therapy in the diseases of the female generative organs was practically abandoned, nay, even ridiculed, and surgery ran rank and wild. The craze for operative records seems to have clouded entirely the conscience and high moral tone of our profession. The remotest future possibility of danger alike with evident present necessity was considered justifiable indication for the extirpation of organs whose vital importance to the physical, mental, and moral welfare of woman is immeasurable. Given a pain or other evidence of disease of the female generative organs, however trivial, and forthwith the far-seeing surgeon pictured to his mind, and to that of his victim, visions of most alarming future calamity and miserable death, unless these threatening organs were at once removed. An ovarian neuralgia,



visions of pus sacs—an urgent oophorectomy. A minute fibroid, sarcomatous degeneration—hysterectomy. How many a woman in apparently absolute health and with prospects of a long and happy life before her has found a premature grave from our surgical zeal! How many more have on slightest or no provocation been unsexed and unstrung! Is it not time for the manhood as well as the science of our profession to call a halt to such work? To their credit be it said, many of the leading gynecologists are themselves beginning to sound the note of retreat; and nothing is more apparent in the literature of pelvic surgery in the past year than a distinct trend toward scientific conservatism.

In the recent edition of the *American Yearbook of Medicine and Surgery*, under the head of Diagnosis of Pelvic Inflammatory Diseases, occurs the following expression: "The profession at large is awakening to the fact that a very large proportion of tubes and ovaries are annually uselessly sacrificed either to an absolute inability on the part of the operator to recognize the true condition, or to a culpable neglect on his part to accomplish an absolute diagnosis."

How often has a laparotomy been made with but the slightest effort to ascertain the condition present; and when perfectly healthy, or at the furthest but slightly damaged organs were found, they were nevertheless removed lest they cause some subsequent trouble, and to justify to the patient the ignorant and careless work of the operator, who must show some trophy of his butchery! In the light of these facts it is a gratifying indication to receive from the pen of so well-known a gynecologist as Howard A. Kelly, of Johns Hopkins University, the following expression: "Conservatism is undoubtedly the progressive spirit of gynecology; exsective and amputative gynecology has gone to its extreme limits, and the more thoughtful surgeons looking at all the questions involved, in their broader aspects, have already sounded the keynote of the new advance." The rule for operative interference in fibroids given by Mr. Champneys, president of the London Obstetrical Society, may well be given a broader application to all conditions indicating radical procedure. Says he: "The number of cases in which operation is justifiable or desirable must, generally speaking, be regulated by the ascertained risks of the tumor [or disease] against the ascertained risks of the operation; the former must exceed the latter before operation could be justified." Life must be reckoned as the first object of our care, to be hazarded only on most certain indications.

But not alone in the decreasing number of capital operations has conservative thought manifested its influence. The second care of true conservatism is in the preservation of function. The rapid multiplication of more conservative methods and measures in operating is in line with the recognition of this principle. If surgery be indicated at all, let it be the simplest and safest and the least disturbing to function

consistent with the subsequent welfare of the patient, is a doctrine which certainly appeals to our judgment as well as to our conscience, and at last we are beginning to appreciate its weight. Among these conservative measures, replacing more radical ones, may be enumerated the following, as cited by Kelly in the paper above alluded to:

1. Resection of diseased ovaries and opening and draining tubes, instead of extirpation of these organs (Polk).

2. Myomectomy as a substitute for hysteromyomectomy (Dudley).

3. Opening and draining pelvic abscesses, posterior to the uterus, through the vagina instead of by the abdominal route (Henrotin).

4. Vaginal drainage in some cases of extra-uterine pregnancy in place of abdominal extirpation (Kelly).

5. Excision of both large and small parovarian cysts without sacrificing ovary and tube (Kelly).

And to these might be added—

6. Curettement and packing of the interior of the uterus in all cases of subacute or chronic tubal disease, rather than premature excision of the affected tube (Polk).

A most eloquent tribute to the success of conservatism in dealing with the appendages is the record of thirty-two childbirths in twenty-nine women whose appendages were conserved; surely an object lesson which the thoughtful surgeon should not soon forget.

And thus it will be seen that all along the lines in surgery a conservative trend is apparent. We are now sifting the gems from the sands we have shoveled in past years, and separating the true from the false doctrines of modern surgery. The most precious metals are in mining found off mixed with many that are dross; and no true progress is ever made in life without mistakes along the way. The day of extreme radicalism is passing fast; but, had it never dawned, the sunlight of to-day's conservatism would never have shown through Ignorance's sable cloud.

## PNEUMOTHERAPY IN PULMONARY HÆMORRHAGE.\*

By CHARLES E. QUIMBY, A. M., M. D.

It is now nearly twelve years since the pneumatic cabinet was presented to the medical profession as a means of applying antiseptics to the pulmonary surfaces. It is over ten years since I began its use in the treatment of thoracic diseases. Very early in those ten years I became convinced that its special value lay in its power to modify both the pulmonic and systemic circulations.

The experience of later years has only served to strengthen that conviction and to crystallize it into abso-

\* Read before the Society of Alumni of Bellevue Hospital, April 1, 1896.

lute certainty, that for some purposes the cabinet is incomparably superior to any other measure at present at our command. One of these purposes is the arrest and prevention of pulmonary hæmorrhage. To support such a claim it is necessary (1) to demonstrate that the cabinet may be so applied as to develop conditions that favor the arrest of hæmorrhage, and to remove or minimize a part or all the causes that induce hæmorrhage; and (2) to present the clinical evidence that its influence in these directions is sufficient to justify the statements made in its behalf. Infarctions, pulmonary apoplexy, and the immediately fatal hæmorrhages from large vessels are excluded for the present, and the discussion limited to the hæmorrhages commonly associated with phthisis. Hæmorrhage of cardiac origin is more properly considered in connection with the pneumatic treatment of valvular lesions. I consider first the arrest of hæmorrhage.

With the flow of blood once established, it is evident that it can be permanently arrested here as elsewhere only by the formation of a clot, and that the formation of such a clot is determined by one or more of three causes: (a) Modification of the blood elements; (b) reduction of vascular tension with slowing of circulation, and (c) compression of the bleeding vessels.

Upon the first of these the cabinet has no direct influence. For effecting the other two it is, *facile princeps*, our most powerful measure. To accomplish this we employ continuous respiration under negative differentiation with rarefactions of from a half to three quarters of an inch of mercury. This is called differential respiration. In such conditions, a patient respires with the pulmonary circulation under existing barometric pressure, while the entire cutaneous expansion is relieved of from a quarter to half a pound pressure to the square inch.

These figures at first seem small, but when it is remembered that the effect is directly and primarily upon the capillaries, their significance is more apparent. The result is capillary dilatation and lowering of the systemic vascular tension, by which the venous system is filled to distention, while the pulmonary vessels suffer corresponding depletion and a slowing of their circulation under a lowered tension. These statements, based on the physics of the cabinet and the circulation, do not lack clinical proof.

The effect is so decided that few persons, even with perfectly healthy lungs, can endure to breathe under a rarefaction of half an inch of mercury for more than three or four minutes. For while the amount of air inhaled with each inspiration is largely in excess of the normal, the pulmonary circulation is so retarded that there is marked deficiency of oxygenation. The external evidences of this cupping effect are equally prominent. No one who has seen the flushing skin and swelling veins, with often a more or less abundant perspiration, that develop under this motion can ever question the influence

of even small differential pressures upon the circulation. Indeed, simple appreciation of the fact that the action is that of one huge cup forbids denial of its influence upon the circulation to any one who trusts in dry cups over a small portion of the chest to relieve inflammatory hyperæmia or to stimulate the absorption of mechanical transudations.

It should be understood that when the patient is compelled by lack of breath to drop the breathing tube, the rarefaction within the cabinet is at once removed by allowing a free influx of air, so that the pulmonary circulation may still have the support of barometric pressure. While it is thus impossible to deny the influence of pneumatic differentiation in retarding pulmonary circulation and diminishing its tension, one can not offer clinical but only physical proof that there is at the same time a compression of the pulmonary vessels. It is certain, however, that the ratio between vascular tension and atmospheric pressure in the lung is changed in favor of the latter, and that there is, therefore, relative compression of the vessels as compared with conditions of common respiration, a compression which must diminish the calibre of those vessels. And when we recall that the vast majority of pulmonary hæmorrhages are from superficial capillaries or minute veins in which tension is normally very low, it does not seem difficult to believe that such tensions may be reduced during differential respiration to the point where atmospheric pressure may cause occlusion of the vessel. Should the differentiation obtained by the cabinet alone not suffice, the use of compressed air for inhalation in connection with the cabinet must certainly cause compression of superficial bleeding vessels.

With hæmorrhage thus arrested, we have to consider secondly the prevention of its recurrence. For our present purposes the causes of pulmonary hæmorrhage may be condensed into two: Increased vascular tension and diminished nutrition of the vascular walls, resulting in weakening and diminished resistance. To fully appreciate the beauties of the cabinet action in diminishing tension and increasing nutrition, it is necessary to bear in mind that vascular tension serves solely the purpose of moving the blood through the vessels, for, if I mistake not, it is now generally admitted that nutritive interchange depends upon cellular action and not upon mechanical transudation. It is certainly well recognized that the vessels of an organ in functional activity are dilated, while vascular contraction marks those parts in which the circulation is relatively diminished. Tissue nutrition may therefore take place under lowered tension, provided the flow of blood is maintained. The evident indications in the condition under consideration then are, to hasten pulmonary circulation as a means of augmenting tissue nutrition, without increased and, if possible, with decreased vascular tension. It is precisely this which is accomplished by the cabinet, by the motion termed forced inspiration.

When, after a few days', possibly a week's, treatment by differential respiration alone, we feel sure that the protective cloths are firmly established, that motion is replaced by forced inspiration. At first, the rarefaction employed is but little more than has been used for differential respiration. But day by day it is increased until the maximum that is deemed advisable for the case in hand is reached. This may require anywhere from two to ten days. What now is the physics of this motion? During inspiration the condition is that just described for differential respiration, and the action that of a general cutaneous cupping. With the higher rarefaction the effect is greater, and at two inches of mercury, if the breath is held for two or three seconds after the lungs have reached full inflation, the capillary hyperæmia of the skin and the venous distention become very evident.

At this point the breathing tube is dropped from the patient's mouth, as the controlling valve is closed, and the pulmonary pressure instantly drops to that upon the skin. The resulting effect upon pulmonary circulation is a point in the cabinet physics which is seldom appreciated. Every one recognizes that the influence of extreme diminution of atmospheric pressure, such as is found at high elevations, is most marked in the lung, where the circulation is largely capillary—i. e., in thin-walled vessels, which also find little support from the associated tissues. Yet we are apt to forget, notwithstanding the frequency with which pulmonary and bronchial disturbances are associated with a falling barometer, that every decrease of atmospheric pressure, however slight, will have proportionately the same relatively greater influence upon the pulmonary circulation. With the case in hand the sudden change in pulmonic pressure may be as much as a pound to the square inch, and takes place when the pulmonic circulation is depleted, while the systemic veins are distended.

As a result there is a rapid filling of the lung, but under low tension, to the point of a moderate hyperæmia. The superficial evidence that such a change occurs is found in the instantaneous collapse of the superficial veins as soon as the patient drops his tube. Within the time required for a single deep respiration from the rarefied air of the cabinet circulatory equilibrium becomes established, and the patient takes the tube for another inspiration. As this begins, pulmonary pressure is again changed by a restoration of barometric pressure. The ratio between pulmonic and cutaneous pressure is now again in favor of the latter instead of the former. The cutaneous vessels are again distended and the pulmonic depleted by a hastened onward flow of blood. The cycle is thus completed, and by repetition both circulations are hastened and tissue nutrition is augmented, and yet at no time is there any increase of vascular tension. On the contrary, in both circulations, the force which increases the blood current is of the form known as suction.

Time forbids any consideration of the effects of these circulatory changes and varying atmospheric pressures upon inflammatory exudates, mechanical transudations, and accumulated secretions, although they are of almost equal importance in effecting tissue nutrition.

In reply the criticism which has been so often made, that, admitting all which is claimed for the action of the cabinet from a physical standpoint, it is impossible to believe that its application for fifteen or twenty minutes a day can be productive of any valuable amount of nutritive change, I can only offer the clinical results.

I have selected from my patients of the last five years fifty cases, taking those which have been longest under observation as being the ones most liable to present recurrent hæmorrhages. Several have been watched through the entire five years and none less than a year.

Before referring to these cases in detail, I wish to say that in ten years, during which time, save through about two months of the summer, I have never had fewer than ten patients, and often as many as twenty-five to thirty, under observation, I have seen but two cases of hæmorrhage which I could not arrest.

Of these, one was a case of acute diffuse infiltration of both lungs, developed from a localized tuberculosis of one apex. Even in this case the hæmorrhages were made less frequent. The other was a case of most acute phthisis involving a large portion of the right lung. The hæmorrhages had been most severe and continuous at the time of the first treatment and continued without change during the ten days the patient lived. I have had occasion to put but two patients in the cabinet when the blood was coming in large quantities. One of these was the one whose case has just been related, the other will be given in detail. A large number, however—just what proportion I can not say—had been expectorating pure blood within six to twenty-four hours of the time of receiving their first treatment.

Of the fifty selected patients, seventy-eight per cent. had had hæmorrhages or bloody expectoration at some time previous to treatment. Forty-four per cent. at least had had very decided hæmorrhages. Of these fifty, and I might add of all my patients, but three have had a distinct hæmorrhage during their course of treatment.

One was a case of well-developed phthisis which was treated with tuberculin, and which was later arrested by cabinet treatment. A second was a case of localized infiltration in a patient who, from past experience, knew that city air was rank poison to him, but who insisted upon having the treatment because a friend had been benefited.

The third was a case in the last stages, with extensive laryngeal ulceration, that had been sent home from the Adirondack sanitarium, and which was treated solely to please the patient and his parents. These cases are not included in the fifty.

The nine out of fifty patients who expectorated blood



while under observation I divide into two classes: First, those who had a distinct hæmorrhage—i. e., expectorated pure blood; and second, those who had bloody expectoration—i. e., mucus streaked with blood. Of the former class there are but two cases (four per cent.), both of which will be given in detail. Of the last there are seven cases (fourteen per cent.).

The following are the two cases of the first class:

*CASE I. Hæmorrhage while under Observation but not with Treatment.*—Mr. L., a young man of twenty-eight years, came to me the last of February, 1891, suffering from moderate but persistent hæmoptysis. His attention was first attracted to the lung by a similar attack in the fall of 1889. He was then sent to Denver by the late Dr. Loomis. A year there seemed to have given him a complete cure of his disease, and he returned to New York in the fall of 1890. Just four months after reaching New York he was attacked with the hæmorrhage, for which, after it had continued intermittently for two weeks, he consulted me. At that time he had moderate localized consolidation at each apex. He was spitting clear blood in considerable amount the day he came to my office, and was at once placed in the cabinet and given appropriate treatment, which was repeated daily. For two or three days he expectorated dark clots and bloody mucus, but no bright blood after the first treatment; then only the stained sputum, and before the end of the week all traces of blood had disappeared.

He continued daily treatments for ten weeks, then three times a week for about six weeks, when he was told that his tuberculous processes as well as the hæmorrhages were arrested, but he was warned that the same climatic conditions of New York which had originally developed his trouble would again excite it to activity unless he took measures to guard against it. He was therefore advised to return for occasional treatment. This he failed to do. Nevertheless, this patient, who had gained only four months' immunity from a climatic cure obtained by a year's residence in Denver, enjoyed a year and four months of full health as the result of four months' treatment by the cabinet. Then his old enemy returned, and the last day of the Columbian celebration of 1892 he walked into my office with a profuse hæmorrhage. Again the cabinet; again almost immediate relief of the hæmorrhage; a month of pretty regular treatment; two months of twelve or thirteen treatments a month; since then, perhaps, twenty treatments in all. Results: no sign of blood since 1892, no cough or trouble of any kind. For the last three months patient has been working as an "overlay cutter," and as a prophylactic has begun occasional treatment.

*CASE II. Hæmorrhage during Observation but not during Treatment.*—Mr. D., a man about thirty-five years old, had his first hæmorrhage seven years ago. He recovered perfectly, and for two years was devoted to athletic exercises. Then the hæmorrhage was repeated with much the same result, but the third one came after a shorter period, and then they became more frequent. During these years he spent a part of each summer in the Adirondacks.

Finally, in July, 1894, after a series of hæmorrhages, he again started for the mountains, but in such a condition that his physician (as stated to me personally) did not expect him to live to reach his destination. For the next five months he had a series of hæmorrhages com-

ing twice and three times a week. During this time he was not able once to lie flat down in bed, nor did he once go to bed without a hypodermic loaded with morphine, which he used upon the slightest indication of cough. That he was near Saranac at this time is sufficient proof that he had the most approved treatment. Early in November he returned to his home and enjoyed about ten days' respite. Then began a week during which (according to his statement) he had two and three hæmorrhages a day. Late in the afternoon of November 16th his wife left him bleeding and came to New York for advice. She was urged to bring him to the city at once. In the forenoon of the 17th he reached my office much exhausted. He was not bleeding then, but had been within twelve hours. All the evidences of anæmia were marked. His dyspnoea was extreme, although under the influence of morphine as he had been for months. He was at once placed in the cabinet, and received daily treatments until January 1st.

In January he received only ten; in February, eight; and in March fifteen treatments. Results: up to this time no sign of blood, although at the end of five days he was deprived of his codeine, which he was taking regularly and freely. At the end of the first week he went to bed without his hypodermic and slept prone. Upon ceasing the codeine he began to cough and expectorate, much to his horror, as for over six months a hæmorrhage had invariably followed any severe coughing. At the end of two weeks he returned to his home in Orange, coming in each day for treatment, and before the end of a month he resumed his business down town, which he has continued ever since. The last of March, 1895, he went South, and later West, and did not return for further treatment until the 16th of July, when, on account of a very small hæmorrhage, he came down from the Adirondacks, where he had been for a month. Since then he has received treatment very irregularly, yet this patient, who had been having recurrent hæmorrhages for seven years, and almost continuous ones for six months, was not only relieved immediately, but, with that one slight exception, has been entirely free from all bleeding for over twenty months, although living under just the conditions which previously had caused them.

A single brief case for the second class: Mr. B., thirty-three years of age. During two years he had eight or ten moderate hæmorrhages—"not over one or two cupfuls," as he expressed it. Began treatment January 31, 1895, ten days after last hæmorrhage. Received eight treatments each in February, March, and April. In May, four; June, two; July, four. None again until October. During this time, while in the Adirondacks, he had one day two or three mouthfuls of blood. With this exception, no sign of blood in eighteen months, although, since October, he has had less than four treatments a month. This case fairly illustrates the seven cases of the second class.

It is only fair that it should be remembered that all the cases were treated under the disadvantages of New York climate, and that a majority continued their usual vocations. In conclusion, I believe that both the physics and clinical facts justify the statement that the pneumatic cabinet is not only unequalled as a measure for the treatment of pulmonary hæmorrhage, but is essentially a specific and practically certain in its action.

## TORTICOLLIS

DUE TO ADENOID VEGETATIONS AND  
CHRONIC HYPERTROPHY OF THE TONSILS.\*

By ARTHUR J. GILLETTE, M.D.,

ST. PAUL, MINN.

ALL meet with cases of torticollis of an acute nature due to inflamed glands, rheumatism, traumatism, nerve irritation, myositis, sprains, abscesses, hamatoma, etc., which of themselves soon disappear or respond quite readily upon the relief of the local conditions.

The cases, however, which I report here belong, I believe, to that class which is known as congenital or idiopathic wryneck, save one that is given simply to show how readily this deformity was cured by the removal of the adenoid vegetations in the retronasal space, and also demonstrates how, if long continued, the tonic spasm of the muscles would naturally cause a structural change in the contracted muscle, which would cause a contracture.

We know the changes made in the ribs and sternum, known as pigeon breast, often due to adenoid vegetations and hypertrophied tonsils and the typical facial changes due to this same disease.

My attention was first called to adenoids and enlarged tonsils as a factor in these cases some two years ago, when a case was referred to me with congenital wryneck. I was unable to find any other cause. The history is as follows:

A boy, aged seven years, well nourished, bright, and active; a remarkably good family history; right sterno-cleido-mastoid muscle so much contracted that the ear was within an inch of the shoulder; marked asymmetry of the face and head. The mother stated that as soon as she began to dress the child she noticed that "its head was crooked"—that is, within ten days after its birth—and that she could not straighten it. It was not, however, so marked that a stranger would notice. She observed that the cord (sterno-mastoid) showed much plainer on one side than on the other. The accoucheur stated to me, upon inquiry, that it was a normal labor aside from the traction with forceps, and that there was no injury to the neck or abrasion of the skin. The child seemed to have no pain and was not fretful in any way that would suggest any inflammatory irritation. The deformity gradually increased until it was very marked. I noticed that the child was a "mouth breather" and that his tonsils were much enlarged. I questioned her as to his breathing, and she stated that even in infancy he had always made a great noise in breathing in his sleep, and when awake never seemed able to breathe through his nose. As I could find no other cause for his condition I thought this might account for it, and referred him to a laryngologist, and he discovered not only the abnormal hypertrophy of the tonsils but a complete nasal stenosis, which he relieved and amputated the tonsils. When the boy returned to me there was a marked improvement in his facial expression as well as in his sleep. The mother remarked how much

better he seemed to be in every respect. I then etherized him and divided the sterno-cleido-mastoid, the head was easily brought into a normal position, and rotation was perfect. As a means of holding the head in a corrected position I employed the ordinary Sayre's jury mast, attached to a leather corset; this he wore for several months. Within six months the face was as nearly symmetrical as is usual. He is now perfectly cured, and there is no tendency and never has been to the return of the deformity.

My next case was that of a baby sixteen months old. The mother noticed, when he first tried to sit up, that he did not hold his head quite straight, and when he was old enough to be attracted by noise that he did not seem able to turn his head in one direction as well as in the other. She had noticed, a few weeks before bringing him to me, that when suffering from a slight cold he seemed to hold his head more crooked than at other times. The family history was good, the birth normal, the child was bright, and there was no evidence whatever of any paralytic trouble. The left sterno-cleido-mastoid was prominent and held rigid by tonic spasm; asymmetry of face and head and slight pigeon breast. This boy was also examined; the tonsils were not much hypertrophied, but the vault of the pharynx was filled with adenoid growths. These were removed. For a day or two the child seemed to hold its head in a more abnormal position than usual, but two weeks after, when he visited me, I felt sure I noticed an improvement both in the position of the head and the symmetry of the face.

I have no doubt that in this case it will be necessary for me to divide the contracted muscle. I say muscle, for I am unable to find any other than the sterno-cleido-mastoid involved.

My third case of this nature is not of the congenital variety. The child had been under my care in infancy and early childhood for rickets, from which it made a perfect recovery. I did not see the child again until it was three years old, and was then referred to me from the Medical Department of the Free Dispensary as a case of wryneck. The mother stated that some six weeks previous the child was suffering from a cold. A physician was called, and hot applications were made to the contracted side of the neck, and medicines administered internally. In fact, several physicians were called, but the child did not improve. I found no fever or constitutional symptom of any kind: there was no vertebral trouble, adenitis, or anything to cause the contraction of the sterno-cleido-mastoid muscle. I referred it to the Nose and Throat Department. There was, as in the other cases, the same condition of the vault of the pharynx—filled with adenoid vegetations. This was removed, and the child was referred back to me in two or three days entirely cured of the deformity.

In reading the literature upon wryneck I notice that in a large number of cases similar to the latter the patients have derived great benefit—in fact, many of them have been cured—by the use of gelsemium, and I wonder if its efficacy is not due as much to its effect on this inflamed tissue, controlling the inflammatory exacerbation, as to its antispasmodic action.

There are several practical points upon which I was

\* Read before the American Orthopedic Association, May, 1896.

unable to get the desired information from books. I wrote to Dr. J. E. Schadle, Instructor in Clinical Laryngology of the State University of Minnesota, who had operated in the cases reported, and the following is his reply:

ST. PAUL, MINN., May 12, 1896.

DR. GILLETTE: In your communication of to-day the following questions are asked:

1. How early in life do adenoid vegetations at the vault of the pharynx appear?

2. What conditions were present in the three wryneck cases on which you operated for adenoids?

In reply to these questions, I will briefly say that heredity undoubtedly forms an important factor in the production of hypertrophied lymphoid tissue, and that in the majority of instances where the retronasal space is involved in the morbid process the condition is congenital. The cases referred to in your second question were well-marked examples of the disease.

McC., a boy, aged seven years, had chronic enlargement of both the faucial and the pharyngeal tonsils. Complete nasal stenosis existed, and the patient's facial expression as well as his general appearance indicated the evil consequences of obstructed respiration. Complete removal of the obstruction restored nose breathing and produced a marked improvement in general health. Regarding the other two patients nothing except adenoid growths were found. The tonsils were not affected. In operating I employed the digital method on both.

The dispensary patient made a rapid recovery. Two days after the post-nasal operation the wryneck had entirely disappeared.

## Therapeutical Notes.

**Injections of Serum in Cholera Infantum.**—The following abstract from an article on this subject by Dr. Reinach, which was published in the *Münchener medizinische Wochenschrift* for 1896, No. 18, appeared in the *Gazette hebdomadaire de médecine et de chirurgie* for June 28th: In fifteen cases of cholera infantum the author employed subcutaneous injections of cow's serum in doses of from ten to twenty cubic centimetres. Four of the patients died; two had a concomitant broncho-pneumonia, and two a follicular gastro-enteritis of long standing. The effect of the injections manifested itself ordinarily in from six to eight hours after the administration of the serum, and from that time the temperature gradually rose, the extremities became warm, the cyanosis gave place to a rosy tint of the skin, and the diarrhoea was arrested. This condition generally continued on the following day, and recovery usually occurred after one injection only. In some cases, however, a second injection was necessary in order to maintain the good results which were obtained by the first one. Besides these injections, rice water was given. The author states that, from a nutritive point of view, twenty cubic centimetres of assimilable serum are equivalent to five ounces of cow's milk, or to an ounce and a half of the mother's milk.

**The Treatment of Pruritus of the Vulva.**—In the *Berliner klinische Wochenschrift* for 1896, No. 18, there is an article by Dr. Ruge, an abstract of which is pub-

lished in the *Gazette hebdomadaire de médecine et de chirurgie* for June 28th. According to the author, says the writer, pruritus of the vulva is not of nervous origin; at least, he has never met with that form; it is symptomatic of a lesion of the vulva, of the vagina, or of the neck of the uterus which gives rise to an abundant discharge. The treatment, consequently, he says, should be directed to the primary lesion. Local treatment is also important, and includes the disinfection of the genital region. This disinfection is done with corrosive sublimate and should be practised by the physician himself in order to be perfectly successful. Every three or four days the vagina and the vulva should be washed and rubbed carefully with a solution of the sublimate and afterward anointed with an ointment containing carbolic acid. The author states that he does not recall any case in which this treatment failed when the physician himself practised it.

**Carbolic Acid in the Treatment of Tetanus.**—Dr. Baccelli (*Polichinico*, November 15, 1895; *Centralblatt für innere Medizin*, July 4, 1896) says that for years he has made use of subcutaneous injections of from fifteen to thirty one-hundredths of a grain of carbolic acid in the treatment of neuralgia, whether acute or chronic, with great success. He reports about six hundred cases, among them some rebellious ones of sciatica, in which the remedy proved effectual. These results led him to try it in tetanus. In that disease he injects it every hour or every two hours into the region of the rigid muscles, keeping watch for symptoms of carbolic-acid poisoning, and has found that tetanic patients have a decidedly heightened tolerance of the remedy; as much as three grains in the course of a day is well borne in many cases. Both Italian and other physicians have witnessed the efficacy of this method of treatment in numerous instances. Babes, who has tested it experimentally and cured tetanized dogs, pigeons, and rats with it, ranks it as on a par with the serum treatment.

**Picric Acid in the Treatment of Itching of the Scrotum.**—The *Revue internationale de médecine et de chirurgie* for July 10th ascribes these formulæ to P. Brocq:

- (1.) R Picric acid..... 4½ grains;  
Vaseline. } of each..... 225 "  
Lanolin. }  
M. S.: For external use.
- (2.) R Picric acid..... 15 grains;  
Vaseline. } of each..... 225 "  
Lanolin. }  
M. S.: For external use.

**Phosphorus in the Treatment of Rickets.**—In an article by Dr. A. B. Marfan, in the July number of the *Revue des maladies de l'enfance*, the following formula is given:

- R Phosphorus..... 0.15 grain;  
Cod-liver oil..... 1,500 grains;  
Saccharin..... 75 "  
Essence of lemon..... 2 drops.  
M. A small teaspoonful may be taken daily.

**A Mixture for the Vomiting of Perityphlitis.**—The following prescription is attributed by the *Gazette hebdomadaire de médecine et de chirurgie* to Pick:

- R Menthol..... 8 grains;  
Cognac..... 600 "  
Tincture of opium..... 150 "  
M. From ten to twenty drops are to be taken several times during the day, in a little sweetened water.



THE

## NEW YORK MEDICAL JOURNAL,

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## THE OFFENSE OF SUBSTITUTION BY APOTHECARIES.

In this issue of the *Journal* we reprint an article that appeared in the *Pharmaceutical Era* for July 24 giving a letter distributed, we presume, among physicians by a well-known and highly esteemed firm of pharmaceutical manufacturers, Messrs. Fairchild Brothers & Foster, in which they call attention to the extent to which some apothecaries persist in dispensing something different from what is ordered by the physician. There is no excuse for the substitution of one preparation for another without the prescriber's consent. We do not think it is always fraudulent in design, but it always carries with it the possibility of fraud. The practice is far too common, and it will not do for the pharmaceutical profession to pass it over in any such words as have been attributed to a prominent speaker at a recent meeting of the American Pharmaceutical Association to the effect that he would have had something to say about substitution but for the fact that he knew that no pharmacist worthy of the name was guilty of it. If pharmacists are doing this thing to a considerable extent, and it seems undeniable that they are, what does it matter to the physician or to the patient whether or not they are "worthy of the name"?

The profession of pharmacy can not alone perhaps crush out the practice, but its influence ought to be exerted to the utmost to that end, and doubtless will be. An editorial article on the subject in the same number of the *Era* ought to go far toward leading the pharmacists to vigorous action. Our contemporary asks where the profession of pharmacy is drifting to if it has got to that point that a physician can not depend upon a druggist filling his prescriptions with what is ordered. Such a practice, if continued, says the *Era*, will work untold injury to the credit and standing of the entire pharmaceutical profession. Physicians are constantly saying that one of the principal reasons why they handle their own medicines is that they are then sure of what they are administering. Any such wholesale accusation against the integrity of druggists the *Era* regards as unjust and untrue, and adds, most undoubtedly with entire truthfulness, that there are thou-

sands of conscientious, upright, honorable pharmacists who would no more think of substituting in a prescription than they would of trying to pass a counterfeit bill. It is unfortunate, it adds, that reflection must be cast upon these honest druggists by the acts of their unscrupulous brothers, but all of this hue and cry on the part of manufacturers about substituting can not be ignored. Where there is so much smoke there must be some fire.

The *Era* closes its article as follows: "Every honest druggist owes it to himself and his profession to speak plainly on this subject. He should adopt the most strict rules for his own establishment; improve every opportunity to condemn the practice of substituting, and see that resolutions to this effect are passed by his local, State, and national associations. Each druggist should make it a point to give his physicians and his customers to understand that when a prescription comes into his establishment, it is filled with exactly what it calls for. There can be no middle ground, no compromise, no question on this point. Physicians who prescribe them and the manufacturers who make the goods must have no good cause for such complaints. The honor of the drug trade demands that this stigma be removed. It is not a question of dollars and cents alone, but professional honor is at stake, and we know that every honest pharmacist will join with us in the statement that the druggist who substitutes in his prescriptions is a disgrace to his profession."

But we can not expect influential members of the profession of pharmacy to suppress this evil single-handed; we of the medical profession have our duty to perform in the matter and more powerful weapons with which to carry on the conflict, but it is one that will call for all the resources of both professions, and both ought to be glad of the active co-operation of the manufacturing pharmacists.

## THE THYROID GLAND AND THE GENITAL APPARATUS IN WOMEN.

The *Centralblatt für innere Medizin* for July 11th contains an abstract of an article on this subject that ran through several numbers of the *Wiener medicinische Wochenschrift*, by Dr. J. Fischer. It is remarked by the writer of the abstract that the fact of there being some sort of relation between the thyroid gland and the generative apparatus in women has been known for centuries, but it is only in exceptional cases that the

relation of cause and effect is directly ascertainable, and in the great majority of instances nothing more than the *post hoc* is really made out. The author has been industrious and thorough in the collection of the data found in literature and has made a great number of investigations himself.

He arranges cases of related disturbances into two classes. The first class comprises those in which the primary trouble is in the reproductive organs. According to his observations, the occurrence of puberty does not give rise to swelling of the thyroid in more than about fifteen per cent. of the cases, but enlargement of one or both lobes was noticed at the time of menstruation in thirty-two out of fifty instances, and it occurs during pregnancy in a third of all the cases. The unfavorable influence of pregnancy on exophthalmic goitre, he remarks, has long been recognized. At the time of labor the gland increases in size to the extent of about half an inch, but the enlargement subsides during the lying-in period. A similar increase attends lactation and sexual excitement. At the time of the climacteric the gland sometimes degenerates, but sometimes an out-and-out goitre forms. It is not uncommon to observe an enlargement of the gland in connection with dysmenorrhœa, amenorrhœa, the formation of fibromyomata, etc., and myxœdema often comes on at the menopause.

The second class consists of cases in which the genital apparatus is affected by disease of the thyroid. Goitrous women are prone to suffer with menorrhagia and metrorrhagia. According to some authors, thyreoidectomy is apt to lead to atrophy of the genital organs. In three women who had had the gland removed, however, the author could not detect any disturbance of menstruation. Amenorrhœa is a common sequel of myxœdema, and in cretins the sexual power is generally reduced. Disturbances of menstruation have been said to be often the first symptom of exophthalmic goitre, but of the occurrence of amenorrhœa in connection with scleroderma, acromegaly, and adiposity there are few observations on record. The author himself has noted anomalies of menstruation in sixty per cent. of corpulent women.

## MINOR PARAGRAPHS.

### CELLULOID AS A MATERIAL FOR SPLINTS.

In the *Centralblatt für Chirurgie* for July 18th Professor Landerer and Dr. E. Kirsch mention the great drawbacks of plaster of Paris as a splint material—its

weight and its proneness to become foul by absorbing sweat, urine, etc. They say that in the Medico-mechanical Institute of Stuttgart celluloid has been found an excellent substitute free from these disadvantages. A wide-mouthed bottle is packed for about a quarter of its height with celluloid cut into small pieces and then filled with acetone. It is provided with an air-tight stopper to guard against evaporation. From time to time it is opened and the contents are stirred with a stick. The celluloid dissolves in course of time. A plaster cast of the diseased or injured part is covered with a moderately thick layer of felt or flannel, and the celluloid solution is rubbed into this covering with the hands, which are to be protected with leather gloves. This process should be repeated from four to six times. The advantages of the celluloid splints and corsets are their lightness, hardness, stability, elasticity, and cleanliness.

### THE ILLINOIS STATE BOARD OF HEALTH AND CHEAP-JOHN MEDICAL SCHOOLS.

LAST week we published a letter from a Chicago physician in which statements were made that, unless they can be contravened, show a woful degree of remissness on the part of the State board of health in the matter of recognizing medical schools that fall far short of deserving the board's recognition. On the other hand, we have received a pestilent little pamphlet entitled *Annual Announcement of the Illinois Health University* which is for the most part denunciatory of the board and of all persons who insist on any sort of regulation of the practice of medicine as constituting a tyrannical "medical monopoly ring." We infer that the Illinois diploma mills are not having things all their own way, but they ought not to be suffered to exist. Let the board be a little more vigilant, as it was in the times of the late Dr. Rauch.

### LEAD GOUT.

DR. H. LÜTHJE (*Zeitschrift für klinische Medizin*, xxix; *Centralblatt für innere Medizin*, July 18, 1896) writes of a form of gout dependent on chronic lead poisoning. He would limit the term to cases in which gouty manifestations are associated with those of chronic saturnism and are without any other ascertainable cause than the action of lead. It has to be diagnosed from acute articular rheumatism and from saturnine arthralgia; in the latter there are no inflammatory phenomena.

### ITEMS.

**Vigorous Action against Substituters.**—The *Pharmaceutical Era* for July 2d contains the following:

"Fairchild Bros. & Foster have recently adopted vigorous methods for dealing with those druggists who substitute other preparations when Fairchild's are ordered, as will be seen by the following letter:

\* opp.

"DEAR SIR: We beg to call your attention to the following statement of facts, which we believe will be of great interest to you as a practising physician, relying upon the pharmacist for dispensing the medicines which you prescribe.

"On a recent date a prescription of a . . . physician, ordering 'essence of pepsin, Fairchild's,' was sent to . . . drug store. The bottle dispensed upon this prescription was immediately sealed in the presence of a witness and



expressed to us. A copy of the prescription was asked for and obtained, which proved to be an accurate transcript of the prescription, bearing date and number corresponding to those upon the label of the bottle dispensed. Upon examination, the content of said bottle was found to be a fluid differing materially from Fairchild's essence of pepsin, so as to be obviously recognizable as a plain violation of the physician's prescription.

"Another written order for Fairchild's essence of pepsin was sent to Druggist . . . . Upon examination, this proved likewise to have been filled with a different and inferior fluid.

"Subsequently, the same day, a messenger was sent to . . . . and asked verbally for four ounces of Fairchild's essence of pepsin. He received a wrapped vial, for which he paid fifty cents. This bottle was found without label, and the messenger returned and asked to have the bottle labeled. The druggist then simply labeled it 'essence of pepsin.' Thereupon, the messenger requested the druggist to put 'all the name on the bottle.' The druggist told the messenger that he 'would not dare to put Fairchild's name on the label, although it was all the same.' The druggist finally admitted to the messenger that he was 'out of Fairchild's essence,' and then returned the fifty cents.

"There is one significant fact that should also be mentioned: the price charged in these cases (as in every instance coming to our knowledge) is the same as the patient would be charged by pharmacists who dispense the genuine medicine ordered. Comment is unnecessary.

"In defense of our own rights, and in order that you may take such means as you deem best to protect yourself and your patients, we advise you of these facts. We further respectfully request that in prescribing Fairchild's essence of pepsin you will kindly send the prescription to pharmacists, of whom there are many, who will faithfully respect their legal and professional obligations to physicians and to the public.

"These prescriptions, sealed and certified, are in our possession, and we stand ready to still further substantiate these statements. Very respectfully yours,

"[Signed.] FAIRCHILD BROS. & FOSTER."

"In explanation of their action, a member of the firm states as follows:

"We have suffered very great injury by reason of this substitution, especially in the case of our essence of pepsin. Endurance has now ceased to be a virtue, and we shall take aggressive steps to protect our interests. We propose to let the physicians know which druggists do not dispense our preparations when they are specifically ordered. We shall follow this policy as being, in our judgment and upon legal advice, a direct and simple method of going right to the core of the evil.

"We have long hesitated to take this aggressive action, for reasons which you will readily appreciate. The direct injury by loss of business, besides the indirect and insidious injury to our reputation and the reputation of our goods, compels us to protect our interests. We had hoped that this most despicable abuse of confidence and fraud would cure themselves by virtue of the condemnation and protest they would arouse among druggists. We have noticed, however, that many honorable pharmacists, while condemning such action without reserve, refuse to believe that such substitution exists to any extent among the druggists. For instance, in the last report of the proceedings of the American Pharmaceutical Association, a prominent speaker is quoted as follows: "I would have wished to say something about substitution, but I know that no pharmacist worthy of the name is guilty of this fault, by which he would lose his good reputation, and by which public confidence which he has until now enjoyed would be destroyed. I will not say anything about it." Others confuse the subject by discussing a whole lot of matter utterly foreign to the plain, clear fact that there are druggists who, when a doctor orders a certain preparation, dispense something else. This is the only substitution of which anybody complains.

"The principal product of ours for which substitutes are most sold is our essence of pepsin. This preparation we originated sixteen years ago, and we may fairly say that it is to-day one of the best known and most used of pharm-

aceutical products. Time and time again we have detected druggists substituting inferior preparations for it. The attitude taken by these druggists showed very well that they fully realized what they were doing. When first charged with substitution, the druggist becomes very indignant and is apt to state that "he does not do that sort of thing," "always puts up what the doctor orders," etc. Upon being confronted with the proofs, he then throws himself upon our generosity, and begs of us not to expose him, promising not to do so again. Here is a recent illustration. A doctor wrote that he had stopped using our preparations because, in endeavoring to prepare some milk with Fairchild's essence of pepsin, he spoiled two gallons of it in a hospital, was greatly annoyed, and lost confidence in our products. Upon investigation we proved to the doctor the repeated substitution of another and inferior preparation supplied upon the hospital requisition, which plainly called for Fairchild's essence of pepsin.

"Another instance. One of the most prominent doctors in New York wrote a prescription which called for "Fairchild's phenolated essence of pepsin." The druggist made some mixture with creosote, and the patient's complaint of ill effects caused the doctor to investigate, when he discovered that liberties had been taken with his prescription. Another case was when a physician ordered for an infant some food to be prepared by a method which we suggested by the use of Fairchild's essence of pepsin, and after repeated failures to carry out the physician's instructions, the party told the doctor he believed there was some mistake, and he was requested to see the druggist. The druggist was indignant, but refused to say what he had used, simply stating that he had dispensed just what the doctor ordered. A sample of the prescription was submitted to us, and it took us but a few moments to discover the substitution and to convince the party that Fairchild's essence of pepsin would do just exactly what the physician wished to accomplish with it. The gentleman thereupon called upon the druggist, who then confessed and begged not to be exposed.

"We have spent considerable time in following up just such cases as these, and we have now determined to take what promises to be a more effective line of action to protect our interests. We do not claim any exclusive right to make essence of pepsin. We do claim, however, the exclusive right to make Fairchild's essence of pepsin. We have expended large sums of money to develop and introduce our preparations, and when a physician prescribes Fairchild's essence, in justice to the physician, to the patient, to the reputation of the druggist, as well as ourselves, we expect that Fairchild's essence shall be used.

"There is another and most important factor in this substitution business. We refer to that class of manufacturers who devote their energies to producing imitations of standard products. These green goods of pharmacy are the most contemptible of all imitations. They are urged as substitutes upon the druggist as "just as good" and "much cheaper." The agents of these houses will go so far as to call the druggist's attention to the fact that he can substitute his product when such a one is ordered, and make a much larger profit. We try to work on original lines and produce articles of intrinsic value. Our principle is to see how good we can make our products and not how cheap.

"We regret that we are forced to take these active steps for the protection of our interests. We sympathize with the druggist and know something of the many difficulties with which he has to contend. We have always tried to be fair and square in our dealings with the trade. We ask only for that to which we are entitled, and every conscientious druggist will recognize the justice of our demands."

#### The Richmond Academy of Medicine and Surgery.—

At the last regular meeting, on Tuesday, the 28th inst., the order for the evening was a paper entitled Strangulated Hernia, by Dr. W. H. Harrison.

#### The Kentucky School of Medicine.—

At a meeting of the faculty, held on the 21st of July, the chairs occupied by Dr. W. H. Wathen and Dr. M. F. Coomes were declared vacant. As yet the successors to these gentlemen have not been appointed.



**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 28, 1896 :

DISEASES.	Week ending July 21		Week ending July 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	25	4	17	7
Scarlet fever.....	39	3	44	3
Cerebro-spinal meningitis. . .	3	3	7	6
Measles.....	131	11	105	7
Diphtheria.....	191	20	192	23
Tuberculosis.....	172	95	139	105

**A Repudiation.**—We have been asked to publish the following, dated New York, July 25, 1896 :

"To the Medical Profession: We, the undersigned, having seen our names attached to a circular which is being distributed by one Dr. George W. Caldwell as an advertisement in soliciting business in a manner contrary to the established rules of the medical profession, desire to state that the letters given to Dr. Caldwell were letters of introduction to the members of the medical profession of California, where he said he was going to settle ; and that his publication of our letters in the manner shown in his circular is entirely unauthorized by us and is dishonorable in the extreme, and we do not indorse him in the manner stated in the published letters as the practitioner he claims to be.

[Signed]      "JOHN A. WYETH, M. D.,  
                   "THOMAS R. POOLEY, M. D.,  
                   "V. P. GIBNEY, M. D.,  
                   "DAVID WEBSTER, M. D."

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Period from June 21 to July 15, 1896 :*

PURVANCE, GEORGE, Surgeon. To assume temporary command of service at Philadelphia, Pa., for thirty days. July 3, 1896.  
 PECKHAM, C. T., Passed Assistant Surgeon. Placed on waiting orders. July 3, 1896.  
 WHITE, J. H., Passed Assistant Surgeon. To proceed from New York, N. Y., to Key West, Fla., for special duty. July 10, 1896.  
 VAUGHAN, G. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 7, 1896.  
 STIMPSON, W. G., Passed Assistant Surgeon. To assume temporary command of service at Port Townsend, Washington. July 3, 1896.  
 SPRAGUE, E. K., Assistant Surgeon. To proceed from Boston, Mass., to New York, N. Y., for temporary duty. July 10, 1896.  
 WICKES, H. W., Assistant Surgeon. Granted leave of absence for twenty-seven days. July 8, 1896.  
 GREENE, J. B., Assistant Surgeon. To proceed from Baltimore, Md., to Point Pleasant, N. J., for physical examination of crews of Life-Saving Service. July 13, 1896.  
 JORDAN, W. M., Assistant Surgeon. To proceed from Birmingham, Ala., to New York, N. Y., for temporary duty. July 13, 1896.

#### Promotions.

NYDEGGAR, J. A., Assistant Surgeon. Commissioned by the President as Passed Assistant Surgeon. July 7, 1896.  
 STEWARD, W. J. S., Assistant Surgeon. Commissioned by the President as Passed Assistant Surgeon. July 8, 1896.

#### Appointment.

JORDAN, WILLIAM M., of Alabama. Commissioned by the President as Assistant Surgeon. July 7, 1896.

**Cholera in Egypt.**—According to the *Wiener klinische Wochenschrift*, there were eighteen deaths from cholera in

Alexandria and forty-one in Cairo during the week ending June 25th.

#### Society Meetings for the Coming Week:

MONDAY, August 3d : Corning, N. Y., Academy of Medicine ; Utica, N. Y., Medical Library Association ; Cleveland Medical Library Association ; St. Albans, Vermont, Medical Association ; Providence, Rhode Island, Medical Association ; Hartford, Connecticut, Medical Society ; Chicago Medical Society.

TUESDAY, August 4th : Elmira, N. Y., Academy of Medicine ; Ogdensburg, N. Y., Medical Association ; Syracuse, N. Y., Academy of Medicine ; Medical Society of the County of Cattaraugus (quarterly), N. Y. ; Hudson, New Jersey, County Medical Society ; Androscoggin, Maine, County Medical Association ; Hampden, Massachusetts, District Medical Society (Springfield).

WEDNESDAY, August 5th : Medical Society of the County of Richmond (Stapleton), N. Y. ; Bridgeport, Connecticut, Medical Association.

THURSDAY, August 6th : Society of Physicians of the Village of Canandaigua, N. Y. ; Cuyahoga, Ohio, County Medical Society.

### Births, Marriages, and Deaths.

#### Married.

BALDWIN—SISTRUNK. — In Tallassee, Alabama, on Wednesday, July 23d, Dr. Benjamin J. Baldwin, of Montgomery, Alabama, and Miss Katie Sistrunk.

#### Died.

BLANC.—In Asheville, North Carolina, on Saturday, July 25th, Dr. H. William Blanc, aged thirty-five years.

FESSENDEN.—In Salem, Massachusetts, on Thursday, July 23d, Dr. C. S. E. Fessenden, of the Marine-Hospital Service, in the sixty-eighth year of his age.

HURLBUT.—In Chicago, on Friday, July 24th, Dr. Vincent L. Hurlbut, in the sixty-seventh year of his age.

OTTERSON.—In Long Branch, on Friday, July 24th, Josephine C. Ottersson, wife of Dr. William C. Ottersson, of Brooklyn.

WHARTON.—In Port Gibson, Mississippi, on Thursday, July 23d, Dr. Richard G. Wharton, in the eighty-second year of his age.

WYMAN.—In Charleston, South Carolina, on Sunday, July 19th, Joseph Maybank, infant son of Dr. Joel W. Wyman, of Denmark, South Carolina.

### Letters to the Editor.

#### THE HYGIENE OF THE NOSE.

943 MADISON AVENUE, NEW YORK, July 27, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In the number for July 18th of your valuable *Journal* Dr. Carl Seiler, of Philadelphia, publishes an article on The Prophylaxis of Nasal Catarrh. He arrives at the conclusions which I advocated about a year ago in my article on The *Ætiology of Post-nasal Catarrh* (*Jour. of the Am. Med. Assoc.*, November 9, 1895), in regard to overdressing, overheating, and too close confinement indoors. I dealt at length in the said article upon these *ætiological* factors and tried to prove that they were as injurious for children as for grown people. I am glad that Dr. Seiler apparently agrees with me in this respect,

and I am happy to see that physicians realize that we have done too much hothousing, not alone for ourselves, but for our children. (In reviewing my article Professor Moritz Schmidt, of Frankfurt on the Main, commensurates my ideas perfectly.)

But when my esteemed Philadelphia colleague further states that another important factor in preventing nasal catarrh is cleanliness of the nasal cavities, I differ with him entirely. He explains this sort of cleanliness in the following manner: "Let, therefore, a child, as early as possible in life, be taught to snuff up the nose a warm saline or alkaline solution, with or without the addition of antiseptics. . . . three or four times morning and evening. . . ."

After a long, sad experience the medical profession has learned the great value of asepsis. We have accepted it, have grown enthusiastic over it, and now live in the era of overasepsis. Imagine the idea of cleansing twice daily a perfectly healthy nose! In dentistry, Dr. Seiler says, for a long time this same principle of cleanliness has been insisted upon; why should not the rhinologist follow in their footsteps? If we argue in that manner, let me ask only, why, reasoning on the same lines, do we not pump out the stomach twice a day? We should surely find much undigested food. Why not wash out the healthy urethra and bladder daily? Why not evacuate the whole intestines by antiseptic solutions, etc., *ad infinitum*?

Will the doctor not give Nature a chance to do anything for us? There are few things so useless, to say the least, as the snuffing up of water into a healthy nose. If there is any secretion, if there are dried scabs, etc., these washings will rarely reach them, and if there are none, I do not see any necessity for troubling our children. On the other hand, direct injuries may follow this snuffing up. The water rarely gets into the accessory cavities. But let there be an obstruction and let anybody try to force it through, and it will happen, even if "intelligently" used, that we drive just the noxious elements of the introitus narium into the frontal or ethmoidal cells. I have seen such affections occur and others undoubtedly have seen them, too. That in acute coryza or similar affections the infection may still more easily be carried into the accessory cavities and cause acute empyema, will be readily understood by everybody. I can not, therefore, approve of this cleanliness, "whether a cold in the head is present or not." On the contrary, I can not warn the profession sufficiently against such unnecessary and harmful procedures.

I know of a physician in this city who daily washes or syringes out his children's healthy eyes, noses, throats, and ears!

Poor father; poorer children!

W. FRIEDENHAI, M. D.

#### DIPHTHERIA ANTITOXINE IN CHICAGO

285 LOOMIS STREET, CHICAGO, July 26, 1896.

To the Editor of the New York Medical Journal:

SIR: I beg to trouble you once more, by stigmatizing Medical Inspector Murdock's statement, that I refused to attend the boy that he attended, as a gross calumny. On the contrary, I urged the mother to allow me to continue, since his condition was so satisfactory, but she insisted on paying me two dollars for three visits, adding she would send for me. I reside only a block from her house. Had I been permitted to follow up the treatment

a little longer I unhesitatingly believe a premature and precipitate death would have been avoided.

It is no unusual occurrence for city stipendiaries of the antitoxine species to try to stifle comment on the degree of denouncing the taking of the widow's mite while apologetic of their own conduct.

Unbiased people will readily see that personalities are out of place in discussing this unfortunate case.

W. J. NOLAN, M. D.

#### EXTRAGENITAL CHANCRE.

CHICAGO, July 26, 1896.

To the Editor of the New York Medical Journal:

SIR: In my letter published in your *Journal* for June 6th, I reported six cases of extragenital chancre. In putting these cases on record, I thought I was doing my duty as a physician, believing they were of some statistical value. I did not intend to start a discussion, but, having reported them, I feel that it is my duty to reply to my critic.

Dr. Sharpe could not have read my report very carefully, or else he could not have made the criticism he did of Case I. The doctor will please observe that the case was under my care nearly *three years*. The induration, deep ulceration, and perforation did not occur at the same time, but followed each other in logical sequence—the deep ulceration and perforation being more than a year later than the induration, the perforation, of course, following the deep ulceration.

The same reply may be made as to Case II, except that the deep ulceration of the tonsils followed the induration at an earlier date.

In Case III the mucous patches occurred when the induration and enlargement of the cervical glands were disappearing.

In reference to Case IV, there is some ground for his criticism, as I neglected to state that the mucous patches and deep ulceration did not occur at the same time as the primary sore, but followed it in due order. Still, such was the inference, as all of the cases remained under my care some time—from four months to three years.

In Case V there is no evidence to show that the father had syphilis at the time of the child's conception, and it is an accepted law that the mother may have syphilis at the time of the birth of her child and yet the child escape infection. The douches were given simply as a safeguard and to keep the parturient canal as free as possible from syphilitic virus.

Why Case VI should be regarded as tertiary syphilis, I fail to understand. There was not the slightest evidence given in my report to support this supposition. On the contrary, there was an indurated lesion and there was enlargement of the nearest lymphatic glands on the lymphatic vessels that drained the surface on which the lesion occurred. (The lymphatic glands on other parts of the body were not enlarged.) A little later, mucous patches occurred in the patient's mouth and there were syphilitic headaches of the early second stage. The alopecia belonged to this stage. Her history was that of recent infection.

I have charge, as an instructor, of the largest throat clinic in Chicago. For five years I have been associated with this clinic. One of the phenomena that I have observed is the early appearance of mouth and throat symptoms after the observation, by the patient, of the initial lesion. Many of the patients that have come

under my care have suffered from deep ulceration of the tonsils within six months after they noticed the chancre. The same condition has held good in my private practice.

The throat clinic of which I speak has been very rich in syphilitic affections of the mouth and throat, and, if Dr. Sharp will visit my clinic, I shall be glad to demonstrate to him all stages of syphilitic affections of the throat, and I think I can convince him that deep ulceration of the tonsils often follows "hard chancre" at an early date. E. D. SMITH, Ph. C., M. D.

## Proceedings of Societies.

### AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Tenth Annual Meeting, held in Atlantic City, on Tuesday and Wednesday, June 2 and 3, 1896.*

The President, Dr. CLAUDIUS H. MASTIN, of Mobile, in the Chair.

*(Continued from page 151.)*

**Good Results following Urethral Resection.**—Dr. EUGENE FULLER, of New York, read a paper on this subject in which he stated that during the past year he had encountered two cases in which, owing to the extensive destruction of the urethral canal, he had at first expected to be obliged to establish an artificial route (either perineal or hypogastric) in order to insure a satisfactory and permanent outlet for the vesical contents. In both of these cases, however, by resorting to a very radical and extensive excision of the diseased urethral areas, he had been able to restore the normal urinating function and to leave the urethral canal apparently permanently of good calibre. In one of the cases the excised tissue had included the entire bulbous urethra, fully an inch of the penile urethra anterior to the bulb, and the anterior half inch of the membranous urethra. In the second case an inch and three quarters of the urethra had been removed. In this case the removed tissue included the bulbous urethra and the anterior portion of the membranous urethra. The first patient had been operated on about a year ago, and had been under observation ever since. Although the urethra was somewhat tortuous, it admitted freely an 18 American, and showed no special tendency to contract. In the second case, in which an operation had been done about ten months ago, the urethra admitted a No. 17 easily four months after the operation. Since that time, Dr. Fuller said, he had not had an opportunity to examine the patient personally, although he had heard from him that he was well and in no apparent need of surgical attention.

Dr. WHITE said that in one case of injury to the urethra which had come under his observation a considerable portion of the urethral wall had been missing. To fill this gap he had used a graft taken from the mucous membrane of the cheek. He was unable to say whether the graft had taken successfully or not. The patient had done well, however, and he was disposed to think that the transplantation had been a factor in bringing about the good result.

Dr. BRYSON expressed the opinion that in the cases reported by Dr. Fuller, particularly in the last one, the

time that had elapsed since the operation was too short to enable him to pronounce as to a permanent cure. In a case of that character, where an extensive resection was done, it would no doubt take a considerable period of time for the urinary canal to fill up.

Dr. CHISMORE expressed the view that the result of grafts within the urethra must be very uncertain.

**Movable Kidney: its Frequency; its Causal Relation to Certain Definite Symptoms; the Measure of Relief afforded by Nephrorrhaphy; a New Method of Applying Sutures in the Operation.**—Dr. FRANCIS S. WATSON, of Boston, thought that the importance of this subject was not sufficiently recognized in this country, in spite of a large mass of reliable data which was at the disposal of the profession. Movable kidney was regarded by many intelligent surgeons as a fad; by others as merely one manifestation of hysteria. Eminent pathologists continued to assert its great rarity, and mention of successful nephrorrhaphies was met with a shrug of the shoulder. The reasons for these doubts were probably as follows: The pathologist rarely found a movable kidney, because, in the first place, he rarely looked for it, and, in the second place, as Newman and Kendal Franks had pointed out, with the body in the dorsal decubitus the kidney naturally returned to its normal position and afterward was retained there by the solidification of the perinephritic fat after death.

As regarded the frequency of this condition, the speaker said, the following figures would prove of interest: Glénard, in 1893, reported that he had seen personally, between 1885 and 1893, 537 cases of movable kidney. Lindner, in 1888, asserted that one woman in every five was the subject of movable kidney. Edebohl, in 1893, said that he had found 90 cases in a series of 500 women who had been examined.

There were three symptoms as to the dependence of which upon movable kidney all authorities agreed. These were, in their order of frequency, pain in the loin or abdomen, disturbances of digestion of the character of atonic dyspepsia, and neurasthenic or hysterical symptoms. There was one other which was not often mentioned, but which, when present, was the most characteristic of all, namely, the sickening pain, accompanied by a sense of nausea and faintness, which occurred when the kidney was grasped between the hands or the fingers and thumb. It was just as characteristic, so far as one might judge from the description of patients, as the peculiar sensation was which men felt when the testicle was squeezed.

An important point in connection with this condition was the occurrence, in a considerable number of cases, of nephrydrosis, which, having been intermittent at first, sometimes became permanent, and the original gravity of it was occasionally added to by infection from the lower part of the urinary tract, which converted it into a nephropyosis, with destruction of the organ.

Dr. Watson briefly described his own method of suturing the kidney in the loin, which was as follows: After exposing the kidney by the usual lumbar incision, the fatty capsule which covered the posterior surface of the organ was excised and its cut edges were stitched a little distance from the margins of the wound. Two stout chromicized catgut sutures were then passed through two thirds of the entire length of the kidney, parallel to each other, and through the parenchyma of the organ, at a distance of half an inch from each other. They entered the kidney a little above its lower end and emerged a little below its upper end. Each end of the



suture was then passed through the edge of the muscular layer of the wound. Two other sutures were then passed in a horizontal direction through the substance of the kidney, one above and the other below the points of entrance and of issue of the two first sutures, and their ends were also passed through the muscular borders of the lumbar wound. The fibrous capsule was now split throughout nearly the entire extent of the posterior surface of the organ and reflected to a very slight extent toward either side, thus denuding the posterior border of the kidney to the breadth of the little finger. Instead of being tied in the ordinary way, that is to say, instead of one end being tied to the opposite end of the same suture, the end of one long suture was tied to the end of the other above, and the same was done below at the points where they passed parallel to each other through the muscular layer. The same was done with the cross sutures. In this way the danger of the stitches' tearing out was avoided. The kidney was drawn firmly into its place and maintained there by the sutures, thus being suspended as in a hammock.

Dr. CHISMORE said that Dr. Watson's paper had made such an impression on him that he should pay more attention to the subject of movable kidney in the future. He had noticed that certain of his colleagues found this condition with remarkable frequency. He had one undoubted case of floating kidney under his observation where the condition had been discovered by accident; but, as it had given rise to no marked symptoms, nothing had been done regarding it.

Dr. CABOT said he had operated in quite a number of cases of movable kidney which had given rise to symptoms in different degrees. In some cases the condition gave rise to nervous symptoms, in others to digestive disturbances, and in a third class to kidney colic. In the digestive, and still more in the latter class of cases, the most favorable results had been obtained by operative interference. In his later operations he had adopted the method originated by Guyon, which seemed to work very well.

Dr. WHITE said he was quite well satisfied that movable kidney existed far more frequently than many supposed; he was equally well satisfied that too many movable kidneys were being found and operated on to-day. He had never seen a death result from the operation, and he had never failed to observe at least temporary relief. The diagnosis usually rested between movable kidney and tumor of the gall bladder or some other intra-abdominal condition. One of the symptoms that aided in making a diagnosis of movable kidney was the variation in the quantity of urine passed due to torsion of the ureter. A history might be obtained of diminution in the amount passed, followed by a sudden increase and a relief of the symptoms. The procedure mentioned in most of the text-books, that of percussion over the loin, he regarded as being of very little importance. The speaker expressed the opinion that most of the symptoms which accompanied movable kidney were directly due to the condition itself, and were not of an hysterical character. The traction on the duodenum would account for the gastric phenomena, the obstruction to the outflow of urine would account for the renal symptoms, and the traction on the nerves would account for the nervous manifestations.

Dr. FULLER called attention to the fact that in cases where the capsule of the kidney was incised, a plastic lymph was thrown out which became firm and held the organ in place.

Dr. BRYSON said that an important reason for operating in these cases was the danger of suppurative lesions. In four cases in which he had opened the kidney for the purpose of draining a suppurative pelvis he had found the organ much lower down than it should have been. He agreed perfectly with Dr. Watson regarding the characteristic pain which was produced by compressing the kidney. As regarded the proper situation of the organ, he had obtained the best results by fixing it in a position where the ureter was neither stretched nor sufficiently relaxed to become kinked.

**Post-conceptional Syphilis.**—Dr. ABNER POST, of Boston, stated that, regarding the possibility of intra-uterine infection with syphilis, two opinions prevailed, one party affirming and another denying its existence, while a third party might be said to consist of those who admitted its possibility up to a certain period of pregnancy, and denied its possibility after a date which was set at various periods by different writers. Those who denied the possibility of such transmission rested their belief upon the well-known relationship between mother and foetus, which did not permit of the direct interchange of blood-corpuscles, and upon the probable fact that the contagion of syphilis was carried only by the blood-corpuscles and not by the serum, so that theoretically the transmission of the disease through the placenta was impossible.

The problem of infection of the foetus during intra-uterine life simplified itself into the question of whether pathogenic microbes might be transferred from the mother to the foetus or not. So far as analogy was concerned, different conclusions had been reached by different investigators. The latest opinion on this subject was to the effect that the microbes of pneumonia and typhoid fever and also the *Bacterium coli commune* passed the placenta and attacked the foetus *in utero*. We were justified in saying that the microbes of certain diseases passed the placenta to infect the foetus, and hence we might infer that intra-uterine infection was not impossible in syphilis.

To establish the fact that the mother had acquired syphilis during pregnancy and transmitted it to her foetus, Taylor, in the recent edition of his work, laid down a series of propositions which must be proved before the fact of such transmission could be accepted. It must be shown that the father was free from syphilis at the time of conception. The infection of the mother during pregnancy and her freedom from the disease previously must be proved beyond doubt. The child must have unmistakable lesions acquired without doubt before birth.

Dr. POST reported a case in which the following facts had been observed by himself and another physician: The previous good health of the mother was known; the primary sore had been seen on the mother during the seventh month of her pregnancy; the secondary eruption had occurred at about the average time, and had been in full bloom at the time of delivery, two months later; the child had been born apparently healthy, or at least without skin lesions, but a perfectly characteristic eruption and accompanying snuffles had shown themselves at the end of a week. The father accused his wife of having given him the disease when she first showed her local lesions, but he afterward confessed that he had acquired the disease outside of marital relations and had transmitted it to his wife. The only point where the evidence was assailable was the failure to examine the father as to the truth of his story.

Dr. Post reported three other cases in which syphilis of the child was thought to be due to inoculation of the mother during the course of her pregnancy, in each case by the father, who had acquired the disease after conception had taken place.

Dr. R. W. TAYLOR, of New York, said that Dr. Post assumed that syphilis was a bacterial disease. While the evidence of analogy strongly pointed to such an etiology, yet true scientific evidence to that effect was lacking. The placenta, as a rule, was a good filter and prevented the transmission of the red blood-corpuscles, which seemed to be the vehicles of the disease; but if this was so, why had the microbes of syphilis not been found in them? Women who were infected with syphilis during the first few weeks of pregnancy usually gave birth, toward the end of the fourth or fifth month, or perhaps later, to a macerated fœtus. When the infection occurred after the fourth or fifth month they might give birth to either a macerated fœtus or a puny, miserable child which at birth showed no evidence of the disease. Admitting that syphilis was due to a microbe which resided in the red blood-corpuscles and was prevented from coming in contact with the fœtus by the placenta, there was nothing to prevent the constant interchange of serum between mother and fœtus, and this carried with it the toxins of the disease. In the case reported by Dr. Post it was a matter of regret that he had not given the father a thorough examination to prove the truth of his statements. Assuming that the father's story was true, and that this was a reliable case of post-conceptional syphilis, it was probably to be attributed to the fact that the placenta of that mother had not been competent; that in the utero-placental circulation, owing to a rupture or thrombosis, or some other lesion, there had been an interchange of red blood-corpuscles and true syphilitic infection of the fœtus.

Dr. P. A. MORROW, of New York, said he had always accepted the theory that syphilis of the mother, acquired after conception, might be communicated to the fœtus, and also that the disease might be communicated to the mother by a syphilitic fœtus. He had observed a number of cases where the wife had been inoculated during pregnancy by a syphilitic husband who had contracted the disease after procreation, which resulted in an offspring with unmistakable evidences of syphilis. The theory that the placenta acted as an absolute filter, preventing contact of the syphilitic virus with the fœtus, did not, in his opinion, rest on sufficient evidence. He believed that almost all authorities at the present day recognized that the mother might receive infection from a syphilitic fœtus, and that the mother, healthy at the date of conception, might afterward contract syphilis and communicate it to her child *in utero*.

Dr. WHITE said there could be no doubt that the placenta acted as a filter. This had been shown experimentally in animals. The speaker expressed the opinion that, while the fœtus might be influenced by the toxins of syphilis, even to the point of death, he did not credit the theory that syphilitic manifestations in such a child after birth were due to the toxins alone, the placenta having acted as a competent barrier against the invasion of the bacteria themselves. One reason which might account for the rarity of post-conceptional syphilis probably was that the child, under these circumstances, must undergo a species of vaccination.

Dr. STURGIS said it was by no means certain that a microbe was the etiological factor of syphilis, and he had never been able to accept the theory that the placenta

acted in the capacity of a filter. It was well known that certain diseases could be transmitted by the mother to the child *in utero*, which compelled us to admit that if the placenta did act as a filter, it was a pretty poor filter, after all. Cases of syphilis had been reported where the mother had been infected as late as the eighth month, and he expressed the opinion that many similar cases escaped notice for the simple reason that it was exceedingly difficult to get an accurate history of such cases. In a pregnant woman the primary lesion was apt to escape notice or might be attributed to some irritation.

Dr. POST said that to make a plea for closer observation in these cases was one of the chief objects of his paper.

**Two Cases of Urethral Chancere with Unusual Secondary Symptoms.**—Dr. J. P. TUTTLE, of New York, said that in the first case the chancre had been situated within the urethra about three quarters of an inch back from the meatus. About ten days after its appearance the patient had complained of general malaise, his temperature had risen to 104° F., and he had an eruption almost typical of measles, except that it had been largely confined to the trunk and to the upper extremities and had the copper-colored tinge suggestive of syphilis. There had been no bronchial irritation. Later, distinct mucous patches had appeared on both tonsils. The eruption had lasted about two weeks. The patient had improved under specific treatment. The second case reported had been one of urethral chancre followed by muscular pains, which had been worse at night and had been so severe in character that hypodermic injections of morphine had been necessary to allay them. This patient had also had subsequently endocarditis and subsequently meningitis, from the effects of which he had not yet recovered. Dr. Tuttle said he was still in doubt as to whether the muscular pains and the cardiac and nervous symptoms had been specific in origin or due to rheumatism or some other constitutional diathesis.

(To be concluded.)

## AMERICAN GYNÆCOLOGICAL SOCIETY.

*Twenty-first Annual Meeting, held in New York, on Tuesday, Wednesday, and Thursday, May 26, 27, and 28, 1896.*

The President, Dr. WILLIAM M. POLK, of New York, in the Chair.

(Continued from page 96.)

**The Treatment of Extra-uterine Pregnancy.**—Dr. HOWARD A. KELLY, of Baltimore, read a paper with this title, in which he advocated vaginal puncture for the removal of the products of conception, and drainage. He based his advocacy of this method on an experience in thirteen cases, three of which were described in detail. In none of these cases had there been any unpleasant sequelæ. One patient who had been in uræmic coma for several days prior to the operation died a few days later, but there was no evidence that the operation was in any way responsible for her death. The method was applicable to the great majority of cases of extra-uterine pregnancy—i. e., to those of rupture in the early months. It was not suitable for the more advanced pregnancies, or for an extra-uterine pregnancy without rupture. Before doing the operation, a careful bimanual examination should be made, and the vagina thoroughly cleansed. With the finger in the vagina and against the gestation



sac, as a guide, a small opening should be made into the sac with scissors, and the opening stretched until it was from three to three centimetres and a half in diameter. Care should be taken to make the opening exactly in the axis of the pelvis, to avoid wounding the rectum. The sac should be washed out with normal salt solution before packing with gauze. The packing was not usually required after five days or a week. The great advantage of the operation was that none of the pelvic structures were removed, but the pelvic hæmatoma was nevertheless opened and drained. The greatest danger was from hæmorrhage, but he had met with only one case in which the hæmorrhage had been excessive. In this one, however, it was alarming. For this reason, the operator should always be prepared to open the abdomen, if required.

**The Treatment of Early Rupture in Extra-uterine Pregnancy.**—Dr. FERNAND HENROTIN, of Chicago, contributed a paper with this title. He divided the cases of early rupture, clinically, into: (1) complete rupture, with free, primary abdominal hæmorrhage; (2) incomplete rupture into the broad ligament. In the early weeks of pregnancy, the diagnosis of complete primary rupture was the diagnosis of intra-abdominal hæmorrhage. It was well to remember that a woman suffering from excessive and progressive hæmorrhage remained conscious after the first swoon, with the face constantly blanched, whereas the face of the woman who had only fainted flushed from time to time. The pains of rupture were likely to be successive, distinct attacks, with the patient well in the intervals. In tubal abortions, he would expect recurrence of the pains at short intervals up to the escape of the ovum. True surgery demanded the ligation of every bleeding vessel hæmorrhage from which might cause loss of life. Where the hæmorrhage was very free, the abdomen should be immediately opened and the vessel secured with two clamps. The hæmorrhage could often be controlled within five minutes in this way, and the entire operation completed in fifteen minutes. While the operation was going on an assistant might, if necessary, perform transfusion. If there were evidences of sepsis present, the abdominal cavity should be cleansed as thoroughly as was consistent with the condition of the patient, and drainage established. If the condition of the patient was very bad, it might be necessary to insert a large gauze drain. In aseptic cases it was better to close the abdomen after the removal of the large clots, as the shorter the operation and the less the manipulation of the peritoneum the better for the patient. Patients with acute, primary, free abdominal hæmorrhage should always be operated upon by abdominal section.

Dr. H. J. BOLDT, of New York, said that he did not think the treatment advocated in Dr. Kelly's paper would be very generally followed, on account of the very great risk of serious hæmorrhage. He thought also that many surgeons would, like himself, prefer to wait until shock had passed off before operating.

Dr. W. H. WATKINS, of Louisville, thought the treatment advocated by Dr. Kelly was correct for that special class of cases. The opening of Douglas's pouch was the best method in cases of severe hæmorrhage in which there was such profound shock that laparotomy would endanger life.

Dr. M. D. MANN, of Buffalo, reported a case of extra-uterine pregnancy in which, after the fetus had been removed through the vagina, there had occurred a frightful hæmorrhage. This had required very free packing

and stimulation of the patient, but in spite of all this improvement had only been temporary, and she had died in a short time. The autopsy showed a sac filling the pelvis and of such a size that an enormous quantity of packing would have been required to completely fill it.

Dr. CHARLES P. NOBLE, of Philadelphia, said he would hesitate to adopt this method except in an old case, because of the reported cases of severe hæmorrhage, and the more so as he had performed twenty-five successful abdominal sections for extra-uterine pregnancy. In the five cases of tubal abortion in which he had operated, the symptoms had tallied closely with the description given by Dr. Henrotin of primary abdominal hæmorrhage. A strong argument against the vaginal method of treatment was the possibility of leaving the ovum in the tube, ready to give rise to another hæmorrhage. If he found the abdomen filled with blood, unless the patient was in very bad condition, he would wash out the abdomen and leave in a considerable quantity of the fluid.

Dr. A. LAPHORN SMITH, of Montreal, said that his experience with the abdominal method in five cases of extra-uterine pregnancy had been very satisfactory. He had no dread of carrying out that method of treatment, but he would be utterly dismayed if required to do the vaginal operation.

Dr. B. F. BAER, of Philadelphia, said that, as the condition was much the same in extra-uterine pregnancy as in disease of the appendages, if abdominal section was the proper method for the former, he could not see why the vaginal method should be proper for the latter. He had never seen a patient with extra-uterine pregnancy die from the hæmorrhage, and in most instances he had not operated until the patient had recovered from shock.

Dr. J. E. JANVRIN, of New York, said that he had never operated upon a patient *à externis*, although he had successfully operated on several occasions while the hæmorrhage was going on. He had reported a case in which there had been a rupture of an artery lying on the gestation sac, with a fatal result. This had suggested to him the propriety of operating in cases in which there were symptoms of hæmorrhage prior to rupture of the tube, and he had twice successfully operated under these conditions.

Dr. SETH C. GORDON, of Portland, Me., said that in 1887 he had done the second successful operation in the United States for tubal pregnancy. Since that time he had operated in nine or ten other cases, and his experience had taught him that it was better to wait for reaction from shock before operating. He did not fear that the women would die from hæmorrhage so much as Dr. Henrotin did.

Dr. ASHTON said that the object of our treatment should be to control the hæmorrhage as quickly as possible, and for this reason he preferred the abdominal route. The irrigation of the vagina with hot water necessitated by the vaginal method was in itself sufficient to increase the hæmorrhage.

Dr. JOHNSTONE said that, as the danger increased with each attack of collapse, his rule was to operate immediately in cases in which there was a history of two or three previous attacks. The rule among general surgeons was to operate only after recovery from shock, and the same rule should apply in gynæcological practice.

Dr. WATKINS said that in eight out of eleven cases the vaginal route had been selected, and he believed that



had the abdominal route been selected in six of the eight cases the result would have been in all probability fatal.

Dr. ANDREW F. CERRIER, of New York, said that the majority of persons operated upon during collapse died. If shock and hæmorrhage were present, it made very little difference whether the case was one of ruptured ectopic gestation or ruptured ovarian cyst, for the treatment was the same.

Dr. J. TAOR JOHNSTON, of Washington, said that it did not seem rational to endeavor to resuscitate a person from shock while hæmorrhage was still active, because the measures employed for producing reaction were calculated to aggravate the hæmorrhage. A number of cases had been reported in which death had occurred while the surgeon was waiting for the disappearance of shock.

Dr. HENROTIN said that it seemed to him that if there was anything which should not be operated upon from the vagina it was an extra-uterine gestation sac. When such a sac had got beyond the active stage, there was no longer an extra-uterine pregnancy, and if it was situated low in the pelvis the vaginal method was appropriate. It was exceedingly risky to open into Douglas's pouch simply because a large boggy mass could be felt there, for there might be no distinct limiting sac, and the hæmorrhage might still be in progress. Under such circumstances, it was safer to perform laparotomy. As he had had a general surgical experience of sixteen years before taking up gynecology, he had learned not to wait for shock to pass off before operating. Of course, he did not mean by that that he would operate upon a patient presenting that condition of great restlessness so characteristic of impending death. He was firmly convinced that the surgeon could distinguish between simple swooning and collapse from excessive hæmorrhage.

**Suspensio Uteri with Reference to its Influence upon Pregnancy and Labor.**—Dr. CHARLES P. NOBLE, of Philadelphia, read a paper on this subject, and detailed the results of a collective investigation which he had been led to make by the occurrence of two difficult labors in his practice following this operation. One of these women had been delivered by podalic version, but the other had required a Porro operation. He had collected reports of 808 suspensions of the uterus in which one ovary had been allowed to remain, so that conception was possible. In only 56, or 6.9 per cent., did pregnancy occur. The investigation had led him to draw these conclusions: 1. That subsequent pregnancies are in most instances uncomplicated. 2. That uterine inertia is not infrequent. 3. That there is likely to be serious obstruction to labor if the fundus of the uterus is so fixed by adhesions that it can not rise out of the way. The foreign journals reported 165 pregnancies after the operation of suspensio uteri, with 17 abortions, 7 premature labors, and 60 labors at full term. Of these 60, 2 were artificial extractions, 8 forceps deliveries, 5 versions and 3 Cæsarean sections. There were 3 deaths from labor. The obstruction, Dr. Noble said, was due to the fact that in some instances the fundus and anterior uterine wall became imprisoned below the point of suture to the abdominal wall. Thus the hypertrophied fundus and anterior uterine wall might constitute a tumor, blocking up the pelvic inlet. It was evident from this that the mode of attachment of the uterus to the abdominal wall was of importance from the obstetrical standpoint. The procedure, therefore, which he now favored, was to make the lower angle of the incision stop an inch and a half above the pubes, and to pass the sutures through the an-

terior instead of through the posterior face of the fundus. Although Kelly had done a large proportion of these operations, in only one of his cases had difficult labor been reported.

(To be concluded.)

## Book Notices.

*Familiar Trees and their Leaves.* Described and Illustrated by F. SCHUYLER MATHEWS, Author of *Familiar Flowers of Field and Garden*, *The Beautiful Flower Garden*, etc. With over Two Hundred Drawings by the Author and an Introduction by Professor L. H. BAILEY, of Cornell University. New York: D. Appleton and Company, 1896. Pp. x-320. [Price, \$1.75.]

IN this handsome book, one sure, we think, to prove of great use, the author treats of one of the features of botany, a science to which more attention should be paid in courses preliminary to the medical curriculum. Among the trees whose leaves are described we find the following that have figured in the *materia medica*: The great-flowered magnolia, or bull bay, the sweet magnolia, or sweet bay, the tupelo, the sassafras, the chokecherry, the witch-hazel, the slippery elm, the chestnut, the beech, the willow, the poplar, the balm of Gilead, the white oak, the liquidambar, the flowering dogwood, the wahoo, the black haw, the white pine, the balsam fir, the larch, the juniper, and perhaps others that we have overlooked.

The book is not by any means a dry description of leaves; it teems with information on various incidental matters. It is written in popular style, but is none the less acceptable to those who view the subject from a scientific standpoint.

## BOOKS, ETC., RECEIVED.

*The Student's Medical Dictionary.* Including all the Words and Phrases Generally Used in Medicine, with their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By George M. Gould, M. D., A. M., etc. With Elaborate Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc.; of the Arteries, Ganglia, Muscles, and Nerves; of Weights and Measures. Analyses of the Waters of the Mineral Springs of the United States, etc. Tenth Edition, rewritten and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. xii-17 to 701. [Price, \$3.25.]

*Keil's Medical, Pharmaceutical, and Dental Register-Directory and Intelligencer.* With Special Medical, Pharmaceutical, and Dental Departments containing Detailed Information of Colleges, Hospitals, Asylums, Societies, with Street Lists, etc. For Pennsylvania, New York, New Jersey, Maryland, Delaware, and the District of Columbia. Fourth Edition. Philadelphia: Burk & McPetridge, 1896. Pp. xxxii-608.

*System of Surgery.* Edited by Frederic S. Dennis, M. D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, etc. Assisted by John S. Billings, M. D., LL. D. Edin. and Harv.; D. C. L. Oxon.; Deputy Surgeon-General, U. S. A. Vol. IV. Tumors—Hernia—Surgery of the Alimentary Canal—Appendicitis—Surgery of the Liver and Biliary Passages—of the Uterus—of the Ovaries and Tubes—

Gynecological Surgery—Symphysiotomy—Surgery of the Thyreoid—Surgical Peculiarities of the Negro—Surgery of the Female Breast—Use of the Röntgen Rays in Surgery. Profusely illustrated. New York and Philadelphia: Lea Brothers & Co., 1896. Pp. 7 to 970. [Price, \$6.]

Manual of Midwifery. For the Use of Students and Practitioners. By W. E. Fothergill, M. A., B. Sc., M. B., C. M., late House Physician to the Simpson Memorial and Royal Maternity Hospital, and Gynecological Wards, Royal Infirmary, Edinburgh, etc. With Double Colored Plate and Sixty-nine Illustrations in the Text. New York and London: Macmillan & Co., Ltd., 1896. Pp. xviii-484. [Price, \$2.25.]

The Spas and Mineral Waters of Europe. With Notes on Balneo-therapeutic Management in Various Diseases and Morbid Conditions. By Hermann Weber, M. D., F. R. C. P., Consulting Physician to the German Hospital and to the Royal National Hospital for Consumption, Ventnor, etc., and F. Parkes Weber, M. D., M. R. C. P., Physician to the German Hospital. London: Smith, Elder, & Co., 1896. Pp. xii-380. [Price, \$2.]

Climate and Health. Edited under the Direction of Professor Willis L. Moore, Chief of the Weather Bureau, by W. F. R. Phillips, M. D. Vol. II, No. 3. A Summary of Statistics for the Four Weeks ending March 28, 1896. [United States Department of Agriculture.]

Transactions of the American Association of Obstetricians and Gynecologists. Volume VIII. For the Year 1895.

Transactions of the Medical Society of the State of New York, for the Year 1896.

Die Krankheiten der warmen Länder. Ein Handbuch für Aerzte. Von Dr. B. Scheube, Fürstl. Physikus und Sanitätsrat in Greiz, früherem Professor an der Medizinschule in Kioto, Japan. Jena: Gustav Fischer, 1896. Pp. vi-462.

Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie. Herausgegeben von O. Angerer, München; E. von Bergmann, Berlin; P. Bruns, Tübingen; H. Curschmann, Leipzig; v. Czerny, Heidelberg; von Eiselsberg, Königsberg; W. Erb, Heidelberg; K. Gerhardt, Berlin; K. Gussenbauer, Wien; A. Kast, Breslau; Th. Kocher, Bern; R. U. Kronlein, Zürich; O. Leichtenstern, Köln; W. von Leube, Würzburg; E. Leyden, Berlin; L. Lichtheim, Königsberg; O. Madelung, Strassburg; J. Mikulicz, Breslau; B. Naunyn, Strassburg; H. Nothnagel, Wien; H. Quincke, Kiel; M. Schede, Bonn; K. Schoenborn, Würzburg; R. Stintzing, Jena; A. Wölfler, Prag; II. von Ziemssen, München. Redigiert von J. Mikulicz, Breslau und B. Naunyn, Strassburg. Erster Band. Zweites Heft. Mit 2 Tafeln und 1 Textfigur. Jena: Gustav Fischer, 1896.

What is the Best Method of Making and of Closing the Coliotomy Incision? By George M. Edebohls, M. D. [Reprinted from the *American Gynecological and Obstetrical Journal*.]

The Indication for Ventral Fixation of the Uterus. By George M. Edebohls, M. D. [Reprinted from the *Medical News*.]

Tumor of the Brain with Double Nasal Hemianopsia. By J. T. Eskridge, M. D., of Denver. [Reprinted from *International Clinics*.]

The Localization of Lesions in the Pons and Preoblongata. By Charles K. Mills, M. D., of Philadelphia. [Reprinted from *International Clinics*.]

The Association of Hemianopsia with Certain Symptom-groups, chiefly with Reference to the Diagnosis of

the Site of the Lesion. By Charles K. Mills, M. D., and G. E. De Schweinitz, M. D. [Reprinted from the *Philadelphia Hospital Reports*.]

Some Phases of Syphilis of the Brain. By Charles K. Mills, M. D. [Reprinted from the *Medical News*.]

Guide médical parisien. Publié par l'Association médicale. Faculté de médecine, école pratique, hôpitaux, hospices, amphithéâtre d'anatomie des hôpitaux, asiles d'aliénés, établissements spéciaux, cliniques particulières, etc. Paris: A. Maloine, 1896. Pp. 6 to 240.

Transactions of the Grant College Medical Society in Bombay, from January to December, 1895.

Thirty-second Report of the Trustees of the Boston City Hospital; with a Report of the Superintendent, the Medical and Surgical Statistics, Rules for Admissions and Discharges, Prospectus of Training School for Nurses, Rules for the Convalescent Home, etc. For the Year February 1, 1895, to January 31, 1896, inclusive.

First Annual Report of Lane Hospital, including Dispensary Clinics of Cooper Medical College as Out-patient Department, San Francisco, 1895.

Bulletin of the North Dakota Climate and Crop Service, for the Month of June, 1896. Vol. VI, No. 6. [United States Department of Agriculture.]

Post-nasal Adenoid Hypertrophy; with Especial Reference to the Importance of its Early Recognition by the Family and Physician. By J. E. Schadle, M. D., of St. Paul. [Reprinted from the *Laryngoscope*.]

Pharyngeal Tuberculosis. By Robert Levy, M. D., of Denver. [Reprinted from the *Denver Medical Times*.]

Orrhotherapy in Diphtheria. By E. Fletcher Ingals, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association*.]

Sponge Grafting in the Orbit for Support of the Artificial Eye. By E. Oliver Belt, M. D., of Washington, D. C. [Reprinted from *The Medical News*.]

## Miscellany.

**The Physician's Life and Work.**—Dr. William F. Barclay, of Pittsburgh, contributes an article to the *Maryland Medical Journal* for July 18th, of which the following is an abstract: There is no more arduous and responsible calling than that of the physician. The knowledge required to succeed in the practice of medicine and surgery is greater than that of any other profession. A natural adaptation which begets a love for the study of the science of medicine is an essential prerequisite. A vigorous and healthy body and mind and a self-sacrificing spirit are necessary to fulfill the requirements of a successful physician's life. To be willing at all times to do that for others which would not be asked or expected from them must guide and control the physician's spirit.

A sure confidence in the action of medicines in palliating and curing disease is the essential of a successful clinician. The power of medicines over diseased conditions is measured by their known actions and judicious application. Personal consecration to the work and study of the science of medicine is indispensable, even to the injury of health and personal comfort. Civilization has increased the demands made upon physicians by the people, and impossibilities are expected, and when all is done that science, reason, and experience can do,



very often reflection and injustice are the physician's reward. The moral force and courage which are required to sustain such injustice and ingratitude must be very great, and it is not to be wondered at that some of the ablest minds in the profession have turned to some other calling where these injustices are not known.

The highest moral character is the safeguard of the physician's life, and nothing short of irreproachable standing will meet the public demand. To know all things possible of the weaknesses, the passions, and the frailties of human character; to control personal feelings and sensibilities, and to respect the sacred duty of eternal silence are incumbent upon the physician toward those who come to him for counsel and help. It is not surprising that physicians become skeptical as to human character, and no doubt it requires, at times, the broadest charity to formulate a reasonable excuse for the depravity that almost daily comes to the physician's notice and consideration.

There is no part of a physician's career that requires more care than a fulfillment of the duties and obligations toward each other. To forgive and forget the injustice that may be done by members of the profession requires very often not a little sacrifice of personal feeling. It is to be regretted that the medical profession is divided into different schools whose theory and practice are entirely at variance and the conclusions arrived at diametrically opposed. The different schools of medicine are continually striving to advance the systems of practice to which they adhere, and, at the same time, they disparage all others, very largely to the discredit of the medical profession. Dr. Barclay believes that the regular school of medicine is the oldest and best, as it selects that which is established and discards that which is not based upon sound scientific truth and verified by practical experience. It is not his desire to disparage any system of practice that has reasonable tenets and recognition at the hands of the people, but to ask a just comparison and abide the discrimination which is certain to follow all things where vital questions are at issue. It is a better sign of preparation and fitness in physicians when the intelligent people are beginning to look into the character, education, and stability of young physicians and refuse to employ or encourage those not at least fairly well equipped by that which should be required. The advantages afforded in our country by our schools, hospitals, and other means of obtaining a thorough scientific medical education are unsurpassed.

At a time not long past, many physicians visited foreign countries for the purpose of attending schools of medicine supposed to be superior to those of the United States. This fallacy, at one time so prevalent, is no longer of pecuniary advantage to the American practitioner of medicine. Medicine and the sciences required are taught theoretically and practically as thoroughly in our country as anywhere in the whole world. The preparatory education of students of medicine is no doubt, in many instances, insufficient, and to this cause more than all others is attributable the want of preparation for successful practice.

The medical profession has not exercised the influence it should upon legislative bodies, in the enacting of laws for its own protection, as well as much that is demanded for the moral and physical welfare of the people.

The attitude of the physician before the people is that of a public servant, and it may be fairly stated that the opinion prevails that physicians are obliged by law to answer all calls and render services whenever it is

demanded of them. The press is not slow to publicly announce a refusal on the part of physicians to attend sick calls where the largest responsibilities are to be assumed without the least hope of pecuniary remuneration. Through the assumption that such services are obligatory upon physicians, great injustice is done to their professional standing. The proposition that professional duty begets menial service contemplates contempt and robs them of the legitimate respect due them from the people.

It may be fairly assumed that the education received in foreign countries by our citizens that have been transported to us has much to do with the assumption that free medical treatment is imperative. Free medical treatment in foreign countries is provided by the governments, and is liberally paid for, and is not gratuitous on the part of physicians. The guaranteed freedom of our institutions has wrought great injustice to physicians, as the laws in our country are formulated, as far as possible, on the basis that medical service to the poor should be gratuitous. Hospitals, almshouses, reformatories, and monopolies assume that medical services as far as possible should be secured without recompense; that the experience obtained in this way by physicians repays them for their time and services.

Physicians should demand a reasonable compensation for all services rendered, both public and private. The attending physicians and surgeons in some of our hospitals are generously paid, and it may be stated that these institutions command the services of the best men in the profession, and take away the reproach of charitable medical treatment that must fall upon the unfortunate poor. Medical charities are fast becoming a burden and reproach to the medical profession on account of the abuses that are practised, and the great injustice done to physicians, especially the younger members of the profession.

The medical profession does not offer so many opportunities to the student as it has in the past, and the number that succeed is yearly growing less, when we consider the multitudes that are crowding into our medical schools. The reports from our larger cities of the meager earnings of medical men are becoming alarming, as the facts would indicate that the larger part of the members of the medical profession do not earn a comfortable livelihood. It would seem that the profession has been hindered in its progress by a willingness on the part of its membership to serve charitable institutions, not to mention monopolies and associations where services are rendered to large numbers of persons, with the smallest possible consideration.

There is at present an inquiry in our larger cities as to the meager earnings of medical men and the complaint that the profession of medicine does not afford a comfortable living. The first and important cause is medical charities; that thousands are treated free of charge who are abundantly able to pay is established beyond all doubt by daily observations of physicians. The attendance given by physicians and surgeons to hospitals and institutions where charitable treatment is afforded requires much time and labor.

Justice demands that the unfortunate poor should be cared for by the State, but the burden should fall equally on its citizens. That physicians and surgeons should bear the burdens of medical service is unjust, and Dr. Barclay has the satisfaction of not having contributed to this imposition upon a great and honorable profession.

The never-pay class is a burden that must be borne,



but he prefers to choose from personal knowledge the objects worthy of charitable care and treatment.

The moral and legal responsibilities are the same for the pauper and for the millionaire, and in many instances the attention demanded is greater by the former case than by the latter. It requires discretion to determine when and where charity begins and imposition ends, and at all times it is best to err on the side of charity.

In justice to medical history we should study and perpetuate the histories of medical men and duly appreciate their lives and work. Our own country has produced an unusual number of distinguished physicians and surgeons, and it is a duty that we perpetuate their names and give them that place in history which their works demand. The work to be accomplished is so varied that it affords material for the different tastes and is suited to the conditions that meet the activities of the human mind. Diversified are the sciences that fit and enable men to pursue the practice of medicine, and it is not possible to know too much about that which concerns our lives and our work. We are members of a great and good profession, and we should exert our best efforts for the highest and noblest ends of the profession of general medicine.

**Menthol in the Treatment of Whooping-Cough.**—In the July number of the *West London Medical Journal*, Dr. Sidney A. Bontor says: Menthol, we know, has a definite action upon nervous tissue; it is most useful in relieving cases of pain due to increased sensibility—for instance, in neuralgia and in the pain of peripheral neuritis—and it has also a decidedly benumbing effect upon the terminal sensory nerve filaments, while the only effect it would be likely to produce, if absorbed, would be a beneficial one, for if taken internally it acts as an antispasmodic. It is used with benefit in relieving the spasms of hay fever, which is itself a reflex neurosis accompanied by a catarrh, and we know that in this condition its action is improved and the mucus most easily removed when it is combined with an oily menstruum; hence it seemed to him that such a solution might be expected to meet the indications for treatment which he had given.

So much, then, for the first and second stages; with regard to the third he has little to say; nothing can be better than the tonic plan of treatment usually adopted, which will restore the patient to health as quickly as possible; it may be remarked, however, that if the pathology given here is correct and the indications for treatment of the first and second stages are efficiently met, the cases of prolonged debility which occur so frequently after whooping-cough may be expected to become considerably diminished in number.

He has carried out this line of treatment in forty cases, most of them selected on account of their severity, and the result has been most satisfactory: in thirty-nine of them the benefit was decided, and in only one did the spray seem to have no effect; this, however, was a case complicated by acute bronchitis. One patient died, a weekly infant of only seven weeks, the immediate cause of death being convulsions in the third week of illness; in two the spray was not persevered with, although the paroxysms were relieved by it, because not having very severe attacks the parents thought the little smarting of the eyes an unnecessary infliction.

The manner in which the spray has been directed to be used is this: About twenty grains of menthol are dissolved in an ounce of liquid vaseline in an ordinary nasal

spray-producer; as soon as a paroxysm begins, or preferably as soon as the patient feels that one is impending, a fine cloud of spray is diffused in front of the face, the spray-producer being held about two feet away; by this means the air in front of the nose and mouth is saturated with the oily particles, and at each inspiration they are drawn into the air passages; this is quite painless, but occasionally a slight spasm of the glottis occurs. The effect of this inhalation is quickly seen, for the mucus is rapidly expectorated and the paroxysm is soon over, so that convulsions are less frequent and vomiting is rare, with the result that the patient loses his dread of taking food and eats with a better appetite, his general condition being thus kept at a much higher level—in fact, among the forty cases there were none of prolonged debility, none followed by gastro-intestinal catarrh, and none at present with tuberculosis. The author does not wish, however, to maintain that this result is wholly attributable to the form of treatment, because he practices in a healthy country district where the tubercle bacillus does not flourish and where the death rate is naturally low, but the results among patients in the same district treated by other methods have not been so satisfactory.

**The Clinical Significance of the Human Hand.**—Dr. Arthur S. Wohlmann, of London, contributes an article on this subject to the *Bristol Medical-Chirurgical Journal* for June, of which the following is an abstract:

The hand is so important a part of the human anatomy, it has played so large a part in the evolution of the human race, and has so largely contributed to the eventual triumph of man over his brute competitors, that it must always have a special interest for us.

The hand closely resembles the face. In each we find a large number of highly specialized small muscles in close connection with special sense organs; for what, after all, are the finger tips but special organs of touch? The remarks, then, that apply to the face apply, though perhaps with less force, to the hands. In the one case, by long custom we have learned to read the open page with some degree of ease and certainty; in the other, we are yet as little children stumbling over the alphabet. Perhaps after all, deep hidden in the muddy depths of charlatanism, there may be some pearl of truth in the study of palmistry! Indeed, these minuter scrutinies have already been largely utilized in criminal anthropology. The remarkable persistence of the epidermal lines of the finger tips, as pointed out by Galton, is made of everyday use in the identification of criminals, while Lombroso has written eloquently of the criminal expression shown by the hands and other parts, just as by the face, though Dr. Wohlmann thinks that most unbiased observers will allow that his enthusiasm outruns his discretion.

Nature does not bind herself down to always work according to one simple rule; a thousand influences are at work complicating the main issue, but all working to a definite conclusion, and all equally susceptible of scientific analysis. According as we look more closely into the matter, so does the element of chance as a causative factor diminish. Take the worn bones of a man who has long and incessantly toiled at the same trade; we soon come to recognize certain deformities peculiar to certain trades—ankylosis and false joints, erosions and bosses of bone, which we can readily see must necessarily have arisen as a consequence of the habitual assumption of the same position; in fact, we can often by the

deformities and so-called abnormalities of a skeleton determine the occupation of its erstwhile owner, just as a comparative anatomist may perform the sensational feat of building up an animal from a single bone. In this connection the well-known "housemaid's knee," "miner's elbow," and "carpenter's hollowed sternum" will at once flash across the mind.

Arbuthnot Lane has shown how in many, if not in most cases, the changes set down to osteo-arthritis are really due to a traumatic arthritis whose mechanism can be readily worked out on physical laws, and its relation shown to the patient's occupation or to a definite traumatism.

The diagnosis between gout, rheumatism, and rheumatoid arthritis is often one of extreme difficulty; and it is here that the observation of the hands is of the very greatest utility. The hand affected by chronic rheumatism may be distorted into all sorts of curious shapes, partly to be explained by the laws already given, partly due to pressure of bony outgrowths or to changes in ligaments and atrophy of supporting muscles. The hand erstwhile in the throes of rheumatoid arthritis may exhibit much the same lesions, due to the same forces at work, but above all, and masking all, is generally to be seen the original deformity—the characteristic swellings, once soft and impressible, now hard, calcareous, and fixed. Tubercular dactylitis may at first sight closely simulate rheumatoid disease in children; but the spindle swelling is caused by bone expansion, and is accompanied by suppurative, in both of which points it differs essentially from the latter disease. The other group, the rarer diseases, are as follows:

1. Page's disease (osteitis deformans). The cranium and long bones are the parts usually affected; and, though the hands sometimes show changes, these are hardly diagnostic and are very rare.

2. Acromegaly (of Marie). The large size of the hands is due to the excessive development of all the tissues. There is no appreciable increase of length, only of width and thickness, earning for the hands the epithets of "battledore" and "spadelike." The wrists are about normal. The nails are somewhat flattened, small, and longitudinally striated.

3. Hypertrophic pulmonary osteo-arthritis. The carpo-metacarpus, the hand proper, is about normal in size; but the fingers are enormously enlarged, the bulbous terminal phalanges being especially prominent. The nails are curved and striated, reminding one of the beak of a parrot. There is great enlargement of the wrists.

4. Myxœdematous hands may at first sight be mistaken for either acromegaly or hypertrophic pulmonary osteo-arthritis; but it will be seen that the skin of the other parts of the body is involved, and it is adherent to the deeper structures.

5. Vasomotor paralysis of the extremities. A few rare cases have been set down to this cause, and may somewhat resemble the foregoing; the presence of subcutaneous hæmorrhages may clear up the diagnosis.

6. The hands may exhibit marked changes in rickets, which in rare cases may simulate some of the former diseases; but an examination of the rest of the body will generally readily afford the data for a diagnosis.

7. In leontiasis ossea (Virchow) the hands may be affected; but for diagnostic purposes the changes are unimportant.

8. Nodosities of the fingers have been noted in connection with dilatation of the stomach.

The author does not pretend to have exhaustively treated even one aspect of the subject, and he has left untouched the clubbed fingers of emphysema, abnormal and extra digitation, Dupuytren's contraction, Raynaud's disease in connection with rheumatism, and all the thousand and one things that crowd to one's mind when it is allowed to rest on a subject. He hopes that this paper, which is rather of the nature of a sketch than a finished study, will tend to stimulate and systematize observation of these interesting cases.

#### Rules to be followed during the Course of Contagious Diseases.—The *Union médicale* for July 4th publishes the following rules which were recently adopted by the board of health of Paris, and were especially designed for the care of school children during the course of epidemic or contagious diseases:

1. The patient's room should be kept very clean, well aired, and properly heated, according to the various seasons and to the physician's directions.
2. There should be no carpet, no curtains, and as little furniture as possible in the room.
3. The bed should stand out in the room and not in an alcove.
4. No one should be allowed in the room except those who take care of the patient.
5. All food and drinks, except what is absolutely necessary for use, must not remain in the room, and what is not consumed by the patient must be burned or thrown into a jar kept exclusively for this purpose.
6. A bowl containing water should be placed near the patient, into which he may expectorate if necessary, as it is of the greatest importance to keep the sputa moist, for if they become dry they may spread through the air in the form of powder, and in this way cause disease. The contents of the bowl must be thrown into the jar.
7. This special jar must always be half filled with a solution of seven hundred and fifty grains of copper sulphate to a pint of water.
8. During the course of the disease all the furniture, etc., must be kept very clean and exposed every day to the light and sun for as long a time as possible.
9. No broom must be used to clean the room, as this would raise a dust which contained germs, and in this way the disease might be transmitted to other members of the family. Damp sawdust should be spread over the floor and afterward wiped up with a wet cloth, which should be allowed to soak in boiling water or be burned with the sawdust.
10. No bedding or clothing should be shaken out of the windows. It must be put into a box and sent to the proper place to be disinfected.
11. The dejecta, the urine, the sputa, etc., must be thrown into the special jar, the contents of which are to be emptied into a water-closet or into a hole in the ground, both of which are to be half filled with quicklime; they should also be at a proper distance from water courses and wells. The jar is then thoroughly cleansed before returning it to the room.
12. The nurse should not eat or drink in the same room with the patient, and before going to meals her hands must be carefully washed and the water thrown into the jar.
13. The water that is used for drinking, cooking, and cleaning must be boiled during the course of a disease or of an epidemic.
14. After convalescence all objects in the room must be subjected to thorough disinfection as soon as possible, whether they have been used by the patient or not.
15. The patient must not be allowed to go out until after a bath, or to return to school until forty days have elapsed after the onset of the disease (this applies to small-pox, scarlatina, and diphtheria), or sixteen days after measles.

These instructions, says the writer, are applicable to



adults, also, and may be followed in all epidemic and contagious diseases, such as typhoid fever, malaria, typhus fever, epidemic dysentery, phthisis, etc.

**Medicinal Hæmoglobin.**—In an article on this subject in the *Progrès médical* for July 4th Dr. Paul Cornet states that at the present time there is a hæmoglobin used for medicinal purposes which is said to be soluble. The product is shown ordinarily under the form of rather pretty crystals or small irregular grains of a somewhat reddish or violet tint, and they are brilliant and metallic. This hæmoglobin is often taken from the fresh blood of the horse, which is well defibrinated and put into deep bottles, where it becomes separated into several layers, the lower of which contains the globules and serves for the commercial preparation of the substance. For this purpose the globulous layer is treated with ether, then spread out on plates and rapidly dried in a stove. This hæmoglobin is then dissolved in water and afterward from fifty to sixty per cent. of its weight of a solution of gum arabic is added to it; it is then spread on glass plates and again put into the stove to dry. This hæmoglobin, however, says the author, is not soluble in alcohol, because of the gum which is used in its preparation and the albumin which is retained by the globules, so that it must be dissolved first in water and wine added afterward; this, however, forms an abundant precipitate which takes away from the hæmoglobin an essential part which can not be used, and the practical conclusion is that the elixir and the wine of hæmoglobin are very poor pharmaceutical preparations, because there is very little active principle in them.

There is another preparation, says the author, which is more soluble and more assimilable, however, which is obtained by allowing the blood to remain in an extremely cold jar. The lower layer is treated with ether and washed several times in order to free the globules from fatty materials and from albuminoids. Desiccation is effected *in vacuo*, care being taken to maintain an unvarying low temperature. Under these conditions a hæmoglobin is obtained which is remarkably soluble in all kinds of wine, and limpid solutions may be made which are of a very deep red color and contain from three ounces and a half to nearly five ounces of hæmoglobin to the pint. This soluble preparation of hæmoglobin is of a reddish-brown color, somewhat like that of iron subcarbonate. With distilled water it forms limpid solutions of a beautiful reddish-purple color. If ninety per cent. alcohol is added to this preparation, it becomes turbid and throws down a blood-colored deposit; the commercial preparation, however, under the same conditions, shows a thick deposit, the color of which resembles that of rust. This demonstrates, says Dr. Cornet, that when hæmoglobin is dried at an elevated temperature the globules are altered by the iron oxide being set free.

**Sesame Oil.**—Dr. R. Stüve, of Professor von Noorden's division of the Municipal Hospital in Frankfurt on the Main (*Centralblatt für die gesammte Therapie*, June, 1896), has been experimenting with sesame oil. He first reports on its use as a substitute for cod-liver oil. He employed it in all kinds of cases, several hundred in number, in which cod-liver oil was indicated. The patients were of all ages, from six months upward to old age, but the majority of them were children between four and fifteen years old weakened by acute infectious disease or by scrofula. As a rule, the amount of sesame oil given daily was from two to three tablespoonfuls, but in many cases it was twice as large. On account of

its absolute lack of odor and its almost entire tastelessness, it was seldom necessary to use anything in the way of a flavor; a swallow of coffee or of cognac or a bit of bread was always sufficient. Many patients objected to the taste at first, but their repugnance was soon over.

The oil was particularly well borne generally, but it disagreed with a few persons, causing palpitation and nausea or vomiting in some and diarrhoea in others, so that its use had to be discontinued. On the whole, the author regards it as one of the best borne and most easily digested of fats. It will often agree in cases in which cod-liver oil is contraindicated, such as those of phthisis with obstinate diarrhoea, which sesame oil aggravates only in very few instances and mitigates in the majority by improving the patients' general condition. Not less favorable was its action in cases of chronic intestinal catarrh with habitual constipation and overproduction of mucus in the lower portion of the intestinal tract.

The oil was strikingly well borne in cases of disease of the stomach. Emaciated persons with gastric catarrh, excessive acidity, ulcer of the stomach, or nervous dyspepsia took daily from one to two ounces of sesame oil without experiencing any ill effect. In other patients with sensitive digestive organs the oil was well borne; above all, in those with acute fevers. Patients with febrile pleurisy, septic fever, and especially typhoid fever, even children, bore the oil well. In some cases it was used by subcutaneous injection, in doses of from fifteen to a hundred cubic centimetres.

Administered as a nutrient enema, sesame oil was not found to give good results; it would remain in the rectum for from twelve to twenty-four hours and then be expelled. The author thinks it would act better as a substitute for olive oil in the enemata treatment of habitual constipation; it is at least, he says, quite as good as olive oil for this purpose. Only the finest and purest sesame oil is suitable for medicinal use. The author has had the best results with an oil furnished by the firm of Speyer & Grund, of Frankfurt.

**Eucasin.**—In the *Centralblatt für innere Medizin* for July 11th, Dr. A. Cohn, of Adlershof, describes this nutrient preparation, made from milk, as a white powder of a somewhat gritty aspect, without any special taste, and having a faint odor of milk. Mixed with cold water, it forms a gelatinous mass. On shaking it with boiling water, a uniform clear-white solution is formed. This tastes like groats, but it is more glutinous. The author says that eucasin is an acid ammonium salt of casein.

He has used it in the form of a mush of oatmeal or rice, to each plateful of which a teaspoonful of eucasin has been added, together with a little salt. This mixture is readily taken two or three times a day. A chocolate preparation containing twenty per cent. of eucasin has been put on the market by Hartwig & Vogel, of Dresden. Dr. Cohn gives brief accounts of several cases in which he has found eucasin of advantage, including cases of pulmonary and laryngeal tuberculous disease, anæmia, peritoneal irritation, typhlitis, parametritis, and perimetritis. Particularly striking were the effects of its employment in a case of acute anæmia following abortion.

**Thyroid Feeding as a Means of Dwarfing the Fœtus.**—At a meeting of the Vienna Geburtshilflich-gynäkologische Gesellschaft held on March 3d, reported in the *Centralblatt für Gynäkologie* for July 4th, one of the members related the case of a woman whom he had attended in labor the year before. She had an infundibuliform pelvis on which the spines of the ischia encroached decidedly, and there was an exostosis on the right ilio-



pubic tubercle. The fœtus was very large, weighing over nine pounds. After repeated attempts at extraction by the high forceps operation, the reporter had had to resort to craniotomy, and even after that had been performed the extraction of the child had been very difficult owing to its size. The woman had since come under his care in the fourth month of pregnancy. In pursuance of Prochownik's idea of restricting the growth of the fœtus by dieting, he had, from the beginning of the fifth month, employed thyroid feeding, giving one tablet a day. At first the woman had increased in weight, but in the later period of the treatment a loss of weight was observed each week. It was judged that the growth of the fœtus was well under control, and the pregnancy was allowed to go to term. When labor came on, the head was driven into the pelvic cavity, but its further advance was impeded by the projecting spines of the ischia. On that account the forceps had to be applied, the head having rotated normally, and a living child weighing about six pounds and a quarter was easily extracted.

The reporter admitted that it was very questionable whether this difference in the weight of the two children was due to the thyroïdin treatment alone, but he thought the case was an interesting one. The treatment had been begun in two other cases of pelvic contraction that had since come under observation at a sufficiently early stage of gestation, and from the results in those cases some opinion might be formed as to whether the dwarfing of the fœtus in the case related had been *post hoc* or *propter hoc*.

**Medical Magic.**—In the *Gazette hebdomadaire de médecine et de chirurgie* for July 12th there is an account of a trial in which the plaintiff was the wife of a porter and the defendant a non-licensed healer who practised her art in a somewhat peculiar fashion. The plaintiff stated that she and her husband had gone to consult this woman about a tumor with which the man had been suffering. The woman had examined the arm, made the sign of the cross over it, and pronounced some Latin words. The judge then asked the plaintiff to repeat the words, but she said she could not remember them perfectly, but thought they were somewhat like this: Roupoupiou—tralala—badabournorum. Afterward, the plaintiff continued, the woman had pierced the tumor with a needle, and during the operation she had made the patient hold a cooked leek in the right hand and a lighted candle in the left. Furthermore, she had directed the patient to anoint the tumor with an ointment every morning, and to wash the arm with rabbit's blood.

The plaintiff stated that her husband had not recovered, and that it had been necessary to take him to a hospital, where he still remained.

**Codeine as an Adjuvant of Dilatation of the Glottis in Croup.**—The *Gazette médicale de Paris* for July 11th contains a report of a recent meeting of the Société médicale des hôpitaux, at which M. Variot read a paper in which he advocated the use of codeine as an adjuvant of dilatation of the glottis in croup. It had been ascertained, he said, that if the tube was left a few minutes in the larynx of children who had violent spasms of the glottis, accompanied by suffocation, and if it was withdrawn immediately, a cessation of the phreno-glottic spasm would be obtained, with a relative regulation of the respiratory movements. Sometimes the spasm yielded, and the regulation of respiration was definitive. It seemed to him that this active and extemporaneous dilata-

tion of the glottis was more efficacious in children over two years of age, and in cases in which the diphtheritic laryngitis was not very membranous, with a hoarse cough and a clear voice. Spasm of the glottis was then a predominant and threatening element in croup. If the vocal cords were dilated by catheterism, immediate and more or less persistent relief would be produced after the withdrawal of the tube. The return of the spasm, however, was to be feared after dilatation with O'Dwyer's tube.

Children over two years of age were less subject to laryngeal troubles, and extemporaneous catheterism of the larynx might be substituted, at least in certain cases, for permanent catheterism.

The serious inconveniences caused by the tube remaining in place, such as its obstruction by mucosities, troubles of deglutition, and cricoid ulcerations, were thus avoided.

M. Variot thought that quieting agents for the nervous system might be useful by causing a definitive reduction of the nervous phreno-glottic apparatus after the dilatation when the spasm was very intense. It seemed to him that a judicious administration of codeine had the effect of quieting the spasmodic attacks and probably, also, of preventing a return of severe paroxysms of suffocation after the extemporaneous dilatation of the glottis. He had made a few experiments with this method, and the results had been very successful.

**Injections of Artificial Serum.**—At a recent meeting of the Académie de médecine, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for July 2d, M. Pozzi made a report on M. Duret's work in regard to the treatment of septicæmia following operations by means of injections of artificial serum. He showed that this practice was widespread in hospitals in Paris; he also alluded to a recent discussion on the subject before the Société de chirurgie in connection with a case which had come under M. Berlin's observation (*Mercure médical*, 1895, p. 620), and he had concluded then that this method of treatment was sometimes very efficacious, and one to be recommended. M. Pozzi gave the preference to subcutaneous injections of a solution of sea salt in the proportion of seven to a thousand.

M. Reclus stated that he had experimented recently with intravenous injections on a boy who had had an attack of hydrophobia. The treatment had not been begun until two weeks after the boy had been bitten, but an injection of nearly five ounces had seemed to quiet the patient, who died, however, two hours later.

M. Championnière had also obtained good results in the treatment of anæmia and shock, but not in septicæmia. M. Pinard expressed the same opinion, and recalled the fact that M. Dastre and M. Loye had shown, in 1889, that in septicæmia there was nothing to be gained by lavage of the blood.

M. Pozzi thought, however, that the successful results of this treatment could not be denied, in M. Berlin's observation particularly. These injections, he said, favored phagocytosis and diuresis, which exerted a favorable influence in certain forms of septicæmia and prevented a fatal result.

M. Championnière was inclined to doubt these facts, especially M. Berlin's. He thought intravenous injections were not harmless, and that, at the present day, there was danger of the method being abused.

M. Dumontpallier thought that injections of ether were sufficient, and said he would not allow any surgeon to practise intravenous injections on him.

M. Pinard stated that he had seen recovery follow subcutaneous injections in seventeen women whose condition had been such that, before the employment of this method, death would probably have resulted.

M. Tarnier had also obtained good results in cases in which by the old method of treatment death would certainly have resulted. With regard to the question of septicæmia, he had never employed this method; he simply recalled the fact that formerly women who had had severe attacks had been cured; that to-day septicæmia was rarer; that it should not always be pronounced fatal, or cry *post hoc ergo propter hoc* when recovery followed the injections of serum.

M. Péan said that, on the whole, all were agreed as to the usefulness of subcutaneous injections, and the precaution with which intravenous injections should be administered.

**The Treatment of Ascites by Injections of Oxygen into the Peritonæum.**—At a recent meeting of the Lyons Société nationale de médecine, a report of which appears in the *Provincie médicale* for July 4th, M. Teissier related the case of a woman who came under his care for ascites with generalized oedema. He treated her according to M. Potain's method of abdominal puncture followed by injections of oxygen into the peritonæum. At the first puncture about fourteen pints were withdrawn, but no amelioration occurred, as the liquid collected again in six days. A second puncture was then made and followed by the injection of 1,300 cubic centimetres of oxygen. The operation was very well borne, and it did not provoke any pain or local reaction; there was also complete absence of fever during the following days.

The abdominal circumference diminished from 128 to 102 centimetres, and the oedema of the lower limbs disappeared very rapidly. The oxygen was easily absorbed by the peritonæum. For some days there was some gurgling, but this disappeared at the end of eight or ten days. At the present time the abdomen still measured 102 centimetres and sonorousness existed everywhere, even in the iliac fossa when the patient lay on her side. She was able to get up every day and walk in the open air. These results had been obtained in three weeks.

The patient entered the hospital suffering from alcoholic cirrhosis, and after her entrance the liver increased in size and cardiac symptoms presented themselves. The diagnosis, said M. Teissier, might be open to discussion, but that was of secondary interest only; he presented the case because he had seen the grave symptoms disappear in three weeks under the influence of an injection of 1,300 cubic centimetres of oxygen into the peritonæum.

**The Thyreoid Treatment in the Idiopathic Tetany of Children.**—The *Presse médicale* for July 11th contains an abstract of an article which was published in the *Riforma medica*, Nos. 115 and 116, 1896, in which the writer states that Dr. Leone Maestro has experimented with this method of treatment in three cases of tetany. The thyreoid gland was given raw or slightly cooked. Small doses were given in the beginning and gradually increased until the amount of thirty grains a day was reached. The results obtained were very satisfactory in the three cases, and the author felt justified, in spite of the limited number of observations on record, in forming the following conclusions: 1. The administration of the thyreoid gland is extremely useful in the treatment of idiopathic tetany in children, as it always diminishes the intensity and the frequency of the attacks,

and shortens the duration of the disease; it also notably hastens the arrival of the latent period which precedes recovery. 2. The treatment is well tolerated by the children. 3. The organic exchanges, the digestive functions, and diuresis are not notably influenced by this mode of treatment. 4. The circulatory and respiratory functions are accomplished normally during this treatment. 5. In very young children, on account of their perfect tolerance, it is useful to administer the thyreoid gland, raw or slightly cooked, internally. 6. With the exception of certain peculiar cases, it is not necessary to suspend the treatment from time to time. 7. The daily dose is from thirty to sixty grains. 8. This treatment is not opposed to the symptomatic treatment, as it does not present any incompatibility with the methods ordinarily employed.

#### The Action of Strychnine in Chloroform Collapse.

The *Union médicale* for July 11th contains the following abstract from an article by Evenhoff, which was published in *Veatch*: Arrest of the heart is one of the most important causes of collapse during chloroform anaesthesia. The paralysis of the vaso-motor centre which is provoked by the latter brings about the rapid fall of the blood pressure, and this fall, by depriving the cardiac muscle of its excitant, is one of the causes of the arrest of the heart. As the result of experiments, Professor Bobroff proposed making subcutaneous injections of sodium chloride in cases where the pulse was feeble during chloroform anaesthesia. Evenhoff's experiments with strychnine were as follows: Tracheotomy was practised on dogs, and a tube was introduced into the larynx and put in communication with a small bottle which contained chloroform. Artificial respiration was made in such a way that the air passed through the bottle, and it could be charged or not with chloroform. Before chloroformization the pressure was noted, then the air, charged with chloroform, was injected and, when the pressure fell to 0, pure air was injected and an intravenous injection of from two to three milligrammes of strychnine was administered. When the pressure finally became normal the animal again received inhalations of chloroform. In this way the action of the chloroform before and after the injection of strychnine was ascertained. The results of these experiments showed that, owing to these injections, dogs, which usually tolerated chloroform badly, could support the drug without inconvenience for a greater length of time. The favorable action of strychnine on chloroformization was thus demonstrated. Strychnine, however, has two inconveniences: it may possibly provoke a tetanoid attack, and, given in the dose employed by Evenhoff, it increases parenchymatous hamorrhage.

**A Curious Example of Old-World Pharmacy** is given, says a daily contemporary, in one of the letters which the Historical Manuscripts Commission has found in the valuable collection of documents preserved by the Marquis of Salisbury in Hatfield House. Toward the end of the sixteenth century Sir Henry Unton was sent on a mission to the French king in Paris, and there became ill; whereupon the physician of the royal house gave him a "a confectio alcarinas, compounded of musk, amber, gold, pearl, and unicorn's horn, with pigeons applied to his side, and all other means that art could devise, sufficient to expel the strongest poison, and he be not bewitched withal." It is almost needless to add that after the administration of this extraordinary medicine the ambassador promptly expired.—*British and Colonial Druggist*.



## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

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#### LECTURE I.—INTRODUCTION.

THE history of the recognition of the disorder known as angina pectoris is connected with the names of three celebrated men—Heberden, Jenner, and John Hunter.

On July 21, 1768, Heberden read, at the Royal College of Physicians, a paper entitled *Some Account of a Disorder of the Breast*, which was published in vol. ii of the *Medical Transactions* of the College of Physicians, 1772. An extract from the original description must be quoted: "There is a disorder of the breast, marked with strong and peculiar symptoms, considerable for the kind of danger belonging to it. . . . The seat of it and sense of strangling and anxiety with which it is attended may make it not improperly be called angina pectoris.

"Those who are afflicted with it are seized while they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away if it were to increase or to continue; the moment they stand still all this uneasiness vanishes. In all other respects the patients are at the beginning of this disorder perfectly well, and, in particular, have no shortness of breath, from which it is totally different."

Subsequently, in the celebrated *Commentaries* upon which our grandfathers in the profession were educated, Heberden gave a fuller account of his experience with the disease. The name which he adopted can not be regarded as altogether satisfactory, since it was already in use in designating affections of the throat, with which its literal meaning—a strangling—is much more in harmony. In one sense, however, the term is fairly appropriate, since, as noted by Gairdner, the words anxiety and anguish, expressive of two of the most prominent features of the disease, have a derivation from the same word.

In 1773, John Hunter had his first attack, which was graphically described by his nephew, Everard Home: "While he was walking about the room he cast his eyes on the looking-glass, and observed his countenance to be pale, his lips white, giving the appearance of a dead man. This alarmed him and led him to feel for his pulse, but he found none in either arm; the pain continued, and he found himself at times not breathing. Being afraid of death soon taking place if he did not breathe, he produced the voluntary act of breathing by working his lungs by the power of the will." In 1776 he had a

second attack, and when convalescent he visited Bath. Here he was seen by his friend and pupil, Edward Jenner, of Berkeley; and one of the most interesting and sagacious letters of that distinguished man was written to Heberden, giving his diagnosis of John Hunter's case, and suggesting, for the first time, the probable association of disease of the coronary arteries with angina pectoris. The letter is worth quoting in full: "When you are acquainted with my motives, I presume you will pardon the liberty I take in addressing you. I am prompted to it from a knowledge of the mutual regard that subsists between you and my worthy friend Mr. Hunter. When I had the pleasure of seeing him at Bath last autumn I thought he was affected with many symptoms of the angina pectoris. The dissections (as far as I have seen) of those who have died of it throw but little light upon the subject. Though, in the course of my practice, I have seen many fall victims to this dreadful disease, yet I have only had two opportunities of an examination after death. In the first of these I found no material disease of the heart, except that the coronary artery appeared thickened.

"As no notice had been taken of such a circumstance by anybody who had written on the subject, I concluded that we must still seek for other causes as productive of the disease; but, about three weeks ago, Mr. Paytherus, a surgeon at Ross, in Herefordshire, desired me to examine with him the heart of a person who had died of the angina pectoris a few days before. Here we found the same appearance of the coronary arteries as in the former case. But what I had taken to be an ossification of the vessel itself, Mr. P. discovered to be a kind of firm, fleshy tube, formed within the vessel, with a considerable quantity of ossific matter dispersed irregularly through it. This tube did not appear to have any vascular connection with the coats of the artery, but seemed to lie merely in simple contact with it.

"As the heart, I believe, in every subject that has died of the angina pectoris, has been found extremely loaded with fat, and as these vessels lie quite concealed in that substance, is it possible this appearance may have been overlooked? The importance of the coronaries, and how much the heart must suffer from their not being able duly to perform their functions (we can not be surprised at the painful spasms), is a subject I need not enlarge upon, therefore shall just remark that it is possible that all the symptoms may arise from this one circumstance.

"As I frequently write to Mr. H. I have been some time in hesitation respecting the propriety of communicating the matter to him, and should be exceedingly thankful to you, sir, for your advice upon the subject. Should it be admitted that this is the cause of the disease, I fear the medical world may seek in vain for a remedy.

\* Delivered to the Post-graduate Class, Johns Hopkins Hospital.

\* Baron's *Life of Jenner*, London, 1827.



and I am fearful (if Mr. Hunter should admit this to be the cause of the disease) that it may deprive him of the hopes of a recovery."

In another letter \* Jenner gives as his reasons for not publishing his views earlier an anxiety lest they should be a source of annoyance to his friend Hunter. "Soon after Mr. Paytherus met with a case. Previous to our examination of the body I offered him a wager that we should find the coronary arteries ossified. This, however, proved not to be exactly true; but the coats of the arteries were hard. . . . At this time my valued friend, Mr. John Hunter, began to have the symptoms of angina pectoris too strongly marked upon him; and this circumstance prevented any publication of my ideas on the subject, as it must have brought on an unpleasant conference between Mr. Hunter and me." He says that Mr. Cline and Mr. Home did not think much of his views. "When, however, Mr. Hunter died, Mr. Home very candidly wrote to me, immediately after the dissection, to tell me I was right."

The further details of Hunter's remarkable case are always referred to. From 1785, when he had a severe illness, the attacks became increasingly frequent, and were brought on particularly by exercise and by worry and anger; and, indeed, he was accustomed to say "that his life was in the hands of any rascal who chose to annoy and tease him." During the last few years of his life, though he did a large amount of work, the attacks seem to have been very frequent, and would come on after very slight exertion and while he was operating. As he had himself predicted, death came suddenly, in consequence of a fit of temper at a meeting of the governors of St. George's Hospital, October 16, 1793. When contradicted flatly, he left the board room in silent rage, and in the next room gave a deep groan and fell down dead. The coronary arteries were found to be converted into open bony tubes, and the aorta was dilated.

Attempts have been made by French writers to claim the priority in the description of the disease for Rougnon, professor of medicine in the University of Besançon. In a letter addressed to M. Lorry, dated February 23, 1768, he describes the case and circumstances of the death of a Captain Charles. The patient had become asthmatic, and on walking fast had a sort of suffocation. Six weeks before his death he had complained to M. Rougnon of "*une gêne singulière sur toute la partie antérieure de la poitrine en forme de plastron.*" The attacks evidently occurred with great suddenness, and disappeared with equal abruptness. The chief stress is laid upon the feeling of suffocation, but it is evident that associated with it there was pain of great intensity; "*seulement un douleur gravative dans le sein du cœur, lorsqu'il éprouvait ses suffocations.*" Captain Charles died very suddenly, shortly after dining with his friends. The pericardium was fatty; the heart was

large; there were no valvular defects; the coronary veins were enlarged "prodigiously"; no mention was made of the condition of the coronary arteries. Rougnon lays stress upon the obstruction in the lungs and excessive ossification of the cartilages. He confesses, however, that the condition was very puzzling, and the autopsy not at all satisfactory to his friends: "*M. Charles est mort, disoient-ils, parce qu'il est mort.*"

I can not agree with Professor Gairdner, who says that "there was no trace of anything like a clinical description of angina pectoris in M. Rougnon's letter." \* The suddenness of the attacks, the pain in the region of the heart, the abrupt termination, and the mode of death—during exertion after a full meal—favor the view that the case was one of true angina.

To Morgagni, not Rougnon, is due the credit of the first description of a single case. In the splendid section on aneurysm of the aorta, he describes angina pectoris accurately in Case V, referring to the paroxysms, the pain, the difficulty of breathing, the numbness of the left arm, and the effect of exertion. I read you here extracts from the case.

"A lady, forty-two years of age, who for a long time had been a valetudinarian, and within the same period, on using pretty quick exercise of body, she was subject to attacks of violent anguish in the upper part of the chest on the left side, accompanied with a difficulty of breathing and numbness of the left arm; but these paroxysms soon subsided when she ceased from exertion. In these circumstances, but with cheerfulness of mind, she undertook a journey from Venice, purposing to travel along the continent, when she was seized with a paroxysm, and died on the spot. I examined the body on the following day. . . . The aorta was considerably dilated at its curvature; and, in places through its whole tract, the inner surface was unequal and ossified. These appearances were propagated into the arteria innominata. The aortic valves were indurated." He remarks: "The delay of blood in the aorta, in the heart, in the pulmonary vessels, and in the vena cava, would occasion the symptoms of which the woman complained during life; namely, the violent uneasiness, the difficulty of breathing, and the numbness of the arm."—(Cooke's *Morgagni*.)

There are those, indeed, who regard Seneca as the first to describe the affection, in the remarkable account which he gives of his own disorder. With this view Forbes and Gairdner agree, but Parry and Stokes do not. I quote from Parry the following translation of part of Seneca's graphic account: "The attack is very short and like a storm. It usually ends within an hour. I have undergone all bodily infirmities and dangers; but none appears to me more grievous. Why not? Because to have any other malady is only to be sick; to have this is to be dying." Seneca states, too, that his physicians called the disease a *neustitia nervosa*.

The literature of angina pectoris has become very voluminous. English writers have contributed most largely to the clinical description of the disease. Per-

\* PATEY, *An Inquiry into the Symptoms and Causes of the Syncope Anginosæ, commonly called Angina Pectoris*, 1799.

\* *Lancet*, 1891, i, p. 561.

haps the two most valuable articles are lectures xxxvii and xxxviii in Latham's *Clinical Medicine*, which you will find in vol. i of the New Sydenham Society edition of his work; and Professor Gairdner's essay in Reynolds's *System of Medicine*. The best recent expositions in French and German are to be found in Huchard's *Traité clinique des maladies du coeur*, second edition, 1893 which gives a most exhaustive account of the various forms of angina, and O. Rosenbach's *Die Krankheiten des Herzens*, 1893. I pass about for your inspection a number of the monographs and journal articles which I have collected on the subject. Parry's essay has become very scarce, but it is in all the larger medical libraries. Rougnon's letter, published at Besançon, 1768, is still more rare. The copy in the Surgeon-General's Library is the only one I have ever seen. I would ask you to look at the first part at least of these fly leaves, which I picked up in an old book shop a few years ago. It is a letter to Dr. Heberden from a man who signs himself "Unknown," descriptive of his own case. He had seen, in the *Critical Review*, an extract from Heberden's original paper, and, recognizing his malady, he wrote in the letter one of the very best accounts which exists in the literature. It is particularly noticeable for two things: He clearly dissociated the pain of the attack from the *angor* or mental feature, and he first made use of the now hackneyed phrase describing the latter aspect as "an universal pause within me of the operations of Nature." Expecting a sudden death, he left orders that Heberden should examine his body. Within three weeks from the writing of the letter the dissection was made by John Hunter.

DEFINITION.—In the consideration of a disease it is well, if possible, to start with a clear understanding, or at least some concise statement, of its nature, and of the characters of the manifestations by which it is recognized. With some disorders this is a very easy matter. For example, insufficiency of the aortic valves is a clearly defined affection, with, it is true, a diverse ætiology, a varied anatomical picture (from a trifling curl of the edges of a valve, to a clean shaving of a segment from the aortic ring); but with all its variations there are associated definite sequences and well-characterized signs.

Angina pectoris is not a disease, but a syndrome or symptom group (without constant ætiological or anatomical foundations) associated with complex conditions, organic or functional, of the heart and aorta. Pain about the heart of an agonizing character, occurring in paroxysms, is the dominant feature of all varieties of the syndrome. Used to define paroxysmal attacks of pain in the chest—breast-pang—we employ the term generically, qualifying the varieties by such names as true, false, hysterical, and vasomotor.

Before passing to the discussion of the varieties of angina pectoris let me refer briefly to the subject of

HEART PAIN.—Disturbance of sensation is a most inconstant symptom of heart disease; the gravest affec-

tions are often painless; the most trifling may present the features of an intense neuralgia; while a very limited lesion may have as its sole manifestation paroxysms of agonizing pain.

The following abnormal cardiac sensations may be recognized:

1. Consciousness of the heart's action; a fluttering, a sense of goneness, the indefinable uneasiness associated with palpitation, a sense of tension in the chest with gasping, all or some of which are common phenomena in emotional states, in indigestion, neurasthenia, and hysteria.

2. Pain—darting, stabbing, tearing or boring, dull and heavy, or acute and piercing, steady or paroxysmal—varying in grades of intensity and in duration, often transient and trifling, as in dyspepsia and the tobacco habit, more enduring and severe in hysteria and neurasthenia, and occurring in paroxysms of an agonizing, intolerable character in the forms of angina. It often radiates over the area of distribution of certain of the cervical and dorsal nerves.

3. There is an element peculiar to certain conditions of the heart, often associated with, but which can not itself be properly characterized as pain—indeed, the patient often expressly states that it is not of the nature of physical pain—a sense of imminent dissolution, a mental anguish, which has been variously expressed by patients and writers as a pause in the operations of Nature, the very hand of death, *angor animi*, etc. This it is which constitutes the special feature in a majority of the cases of true angina.

CLASSIFICATION OF THE FORMS OF ANGINA PECTORIS.—It may seem a refinement to subdivide and sort cases of a disorder which is acknowledged to be only a symptom, or, as it has been expressed, a neural incident of cardio-vascular disease; but there are practical advantages which far outweigh any theoretical objections—advantages of the very greatest moment in prognosis and in treatment.

Following the work of Heberden, Parry, and others, there were cases reported as angina which did not belong properly to that category, and the disorder was confounded with cardiac asthma, which we now term cardiac dyspnoea. As early as 1812 J. Latham read a paper on certain symptoms usually but not always denoting angina pectoris (*Medical Transactions*, Royal College of Physicians). He remarks that when the extremities are cold, the countenance is bluish or purplish, the pulse is rapid, and respiration is performed with difficulty and in an upright position of the body, the practitioner has usually concluded that the disease is angina pectoris. The class of cases which he described were evidently orthopnoea and cardiac dyspnoea, associated chiefly with affections of the abdomen. He calls the state angina notha, spurious angina, the first time, so far as I am aware, that the term was used in literature.

Laennec recognized different degrees of intensity in

angina, stating that it was "far from possessing the degree of severity attributed to it by many authors," and was evidently aware that it occurred commonly enough without indicating any serious disease of the heart or large vessels. "Angina pectoris, in a slight or middling degree, is extremely common, and exists very frequently in persons who have no organic affection of the heart or large vessels." \*

By far the most important contribution to the recognition of varieties of angina pectoris was made by Walshe, who, in his text-book on *Diseases of the Heart*, described a pseudo-angina pectoris, occurring particularly in women, and in the subjects of hysteria, spinal irritation, and various forms of neuralgia.

The recognition by Beau, Graves, Stokes, and others of the relation between the abuse of tobacco and attacks of angina led to the separation of the important group of toxic cases. Other forms of pseudo-angina which are described are those dependent upon reflex causes, and the vasomotor type of Nothnagel.

In any long series, the cases of angina fall into two groups: those in which there are signs of lesion of the heart or arteries, or of both, and those in which all symptoms of organic disease are absent. This was the important division recognized by Forbes into organic and functional angina—the angina pectoris vera and the angina pectoris notha—the true and the pseudo-angina.

In looking over the cases which form the basis of these lectures, I find that they fall into the following groups: (1) Angina pectoris vera, and (2) angina pectoris notha, under which are grouped hysterical, vasomotor, and toxic forms.

THE CORONARY ARTERIES.—A few essential points in the anatomy and physiology of the heart may here engage our attention for a few minutes. The coronary arteries are the Abana and Pharpar of the vascular rivers, "lucid streams," which water the very citadel of life. By means of these injected specimens which I pass around, you may refresh your memories on their distribution. The arteries are, as you see, large in proportion to the size of the organ to be nourished. From the position of their origin it is evident that they must be subject to blood pressure during both systole and diastole. The left coronary is usually the larger, and divides into two main branches: the circumflex or posterior, which runs in the groove between the left ventricle and auricle, and the anterior or descending ramus. Note particularly the branches of the latter vessel, which runs in the anterior interventricular groove. You will see a very large branch, which is given off to the anterior wall of the left ventricle, and several branches which pass deeply into the septum. This anterior branch is the important one in the morbid anatomy of the coronary arteries, since it is by far the most frequently found the seat of exten-

sive sclerosis or of embolism or thrombosis. It may be called the artery of sudden death.

From the date of Sir John Eric Erichsen's observations on the subject (1812) to the present the effects of closure of the coronary arteries have been much discussed. A very good historical summary is given by W. T. Porter in the *Journal of Physiology*, vol. xv, 1893. It is remarkable how discordant are the statements of different observers. As this author remarks, seldom have the results of physiological studies been more at variance; there is no statement which is not denied, no fact which is not disputed. More recently Porter has again gone over the whole question with a great deal of skill, and I will give you here some of his conclusions.\*

The frequency of the stoppage of the heart's action is in proportion to the size of the artery tied. Ligation of the smallest artery, the arteria septi, does not cause arrest; of the next in size, the coronaria dextra, fourteen per cent. of the ligations were followed by arrest; then comes the larger descendens with twenty-eight per cent.; and, finally, the circumflex, the largest artery of all, with sixty-four per cent.

The effect of closure of the coronary arteries on the blood pressure within the heart is of great importance. After the tying of a single vessel there is a diastolic rise of pressure, which is not compensated for by any increase of pressure in the coronary arteries; on the contrary, in them the pressure is falling, while that in the auricles is rising. It is known that the normal mean pressure in the auricles, and consequently in the coronary veins near their mouths, is very low. A rise of a few millimetres of auricular pressure might interrupt the entire coronary circulation. This is one of the most important points brought out by Porter's researches, and I quote here a paragraph on this point: "It must be acknowledged, then, that a rising auricular pressure after ligation may at length put a stop to the whole blood supply of the cardiac muscle, and, as this rise is often occasioned by the closure of a single vessel, it is plain that the entire coronary circulation can, in fact, be interrupted by the ligation of one coronary artery."

It has been much debated whether the coronary arteries are really terminal or end arteries. Anatomically, it may be shown that they are not, since an injection liquid can be made to pass from one artery through communicating branches into the other. All are agreed, however, that the anastomosis is not sufficient to permit collateral circulation to keep a vascular area alive after the distributing artery is blocked. The effect of plugging of the artery is the production of what is known as an anemic infarct, a well-recognized pathological condition, the consideration of which need not detain us. A very important matter relates to the effect of plugging of the coronary arteries upon the heart-beat; the contractions become of the type known as fibrillary, and it is difficult

\* Forbes's edition of *Lectures*, fourth edition, p. 650.

\* *Journal of Experimental Medicine*, vol. i, No. 1, 1896.



or impossible to get the organ to resume the ordinary co-ordinated beats, though experimentally this has been done, even after fibrillary contraction has been established.

The relation of coronary-artery disease to angina pectoris, which was suggested by Jenner, has directed the very particular attention of writers to the changes in these vessels. It does one good to look over the older literature, and to note the accuracy with which some of the cases have been recorded, particularly by Morgagni. Parry, too, gives an interesting series from the older writers. The subject is so extensive that I can not enter upon it here in great detail, but I may, perhaps, bring it before you with sufficient emphasis if I speak of the common sequences in connection with illustrative cases.

The coronary arteries are very subject to degenerative changes, particularly in persons who have passed the middle period of life. They may be affected alone or as part of a widespread disease of the vessels. For practical purposes we need not consider any other change than arteriosclerosis in its various grades, from a trifling thickening to atheroma and rigid calcification. We must, however, recognize an affection of the orifices of the arteries, apart from the common degeneration of the trunks. A gradual narrowing of the orifice of a vessel may be quite as serious as extensive disease of the branches. There is a form of aortitis met with not infrequently in men between the ages of thirty and forty, who have had syphilis and who have worked hard and drank deep (*devotees of Venus, Bacchus, and Vulcan*), in which the intima is swollen, almost corrugated, with fresh translucent areas of endarteritis. I skip all considerations of its anatomy. Three serious sequences may follow: (a) Rupture of the aorta, sometimes only of the intima, as clean cut as with a razor, in half or a third of the circumference, sometimes with the formation of a dissecting aneurysm; (b) the slow development of the ordinary form of aneurysm of the arch; and (c) narrowing of the orifices of the coronary arteries. Angina attacks, sudden death, and slowly developing myocarditis and its sequences are the possibilities in this third category. I pass around this fine plate of Corrigan's, taken from the *Dublin Journal*, in which you see great swelling of the intima above the valves, due, as Corrigan expressed it, "to an effusion of organized lymph between the lining membrane and the fibrous coat." The patient in this case, a man only thirty-nine years of age, suffered with severe attacks of angina.

Let me illustrate by these specimens some of the more common pathological conditions associated with disease of the branches of the artery. Here is an extraordinary heart, which illustrates how much of the coronary circulation can be cut off if the obstruction takes place gradually. The organ was taken from a man aged about thirty-six or thirty-seven, who had been an inmate for eighteen years of the Institution for

Feeble-minded Children at Elwyn, Pa. He was a large, powerful imbecile, dumb but not deaf. He was very good tempered, did a great deal of work about the farm, and frequently did very heavy lifting. He never had epilepsy; he was not known to be short of breath, nor had he complained or indicated in any way that he was out of health. One afternoon he had a sort of fit, the face became very much congested, and he died in about half an hour. There was nothing special found in the brain. The heart, as you see, is large, and weighed twenty ounces. There was general hypertrophy with dilatation. There was quite extensive fibroid myocarditis, particularly in the anterior wall of the left ventricle, at the apex, and in the lower portion of the septum ventriculorum; the valves were normal. But what I wish you to examine most particularly is the state of the coronary arteries, which are freely dissected out. The left vessel is almost obliterated, only a pin-point channel remaining, while of the right artery the main division passing between the auricle and ventricle is converted into a fibroid cord!

It is much more common to find one artery extensively diseased, or even completely obliterated. Take, for example, this specimen, which was removed from a colored man, aged about thirty-five, who had aortic insufficiency, with dyspnoea and oedema of the legs. He died suddenly, though he had for some weeks great dilatation of the heart and general anasarca. The aortic segments are curled and thickened; the ascending arch is greatly deformed, with a recent general endarteritis. There are a few calcareous plates. The right coronary artery is completely obliterated. There is no opening whatever on the aorta. The left vessel is dilated, and presents atheromatous patches. There are areas of fibrous myocarditis in the left ventricle, but in other respects the muscular substance of the heart does not look abnormal, and it is not fatty.

Here is a much more common condition. In this anterior coronary artery you see a firmly adherent thrombus, which completely occludes the descending branch, to the lumen of which it is firmly attached. It was taken from a man about fifty years of age, who had mitral-valve disease and had a good deal of cardiac dyspnoea. Early one morning he was seized with severe pain about the heart and shortness of breath, and died in a very few moments. Both coronary arteries were thickened and calcified, and presented atheromatous plates, but no doubt the sudden death was due to the blocking of the anterior branch of the left coronary artery by the thrombus.

When the occlusion has persisted for any length of time before death the condition of anæmic necrosis may be found. I am sorry I have no fresh specimen to show you, but most of you have, no doubt, seen microscopic, if not macroscopic, examples. It is important in the dissection of the heart to slice carefully the septum and the wall, as these infarcts of the heart muscle are

found in numbers directly proportionate to the care with which they are sought. We have not had any very large number of cases. They are much more common, I think, in hospitals with old chronic cases, or with which there are in connection large almshouses, as at the Blockley Hospital. I was much impressed at that institution with the number of cases of anæmic infarcts—many more than I saw at the Montreal General Hospital or have seen here. They occur most frequently in the walls of the left ventricle and in the septum, particularly toward the apex. When fresh they stand out beyond the level of the surrounding muscle, and are sometimes very firm, yellowish white, or even quite opaque white in color. With the fresh infarcts there may be old fibroid patches, into which ultimately these areas of anæmic necrosis are transformed.

To complete the series, I show you here sections of the descending branch of the left coronary artery, which you see is almost completely obliterated by an old, much-altered thrombus. This case illustrates another sequence of slowly developing coronary artery disease—namely, fibroid, myocarditis at the apex, with weakening of the wall, and the gradual formation of aneurysm of the heart. The specimen was taken from the body of a large, powerfully built man whose heart symptoms developed with great abruptness, and who presented for many months an obscure train of symptoms pointing to serious disease of the myocardium.

Autopsies on cases of angina pectoris are not common. The man with a fresh thrombus in the anterior branch of the left coronary artery probably died in a paroxysm of angina, but he had not had previous typical attacks. As I will tell you later on, the disease is so rare in hospital practice that we do not have opportunities of making the inspection of the bodies of persons who have died of the disease.

And, lastly, a few words on the *innervation of the heart*, a cardinal point, inasmuch as the very essence of the angina paroxysm must rest on some profound disturbance in the function of the nerves. The newer methods of investigation have added considerably to our knowledge of the distribution of the intrinsic nerves of the organ. Doubtless some of you have seen in the pathological laboratory Dr. Berkeley's wonderful specimens illustrating the ultimate terminations of the filaments between and on the fibres.\* In looking at them one realizes the truth of the remark of a recent author, that it is difficult to say in which the myocardium is richer, in nerve elements or in muscle fibres. Everywhere throughout the organ—in the tissues beneath the endocardium and pericardium, throughout the muscle substance, and about the blood-vessels—the nerves are in extraordinary profusion. The double nerve supply you know, from vagus and sympathetic, and the double function, the former controlling, checking, and inhibiting,

the latter augmenting the force and hastening the frequency of the heart-beats. The researches of His junior and Romberg have shown that the ganglion cells of the heart, even those lying in the vagus branches, have the same origin as all other sympathetic cells. They differ in protoplasmic appearances and in other ways from the cells of the spinal ganglia. The rhythmic action of the heart is probably automatic, due to a power inherent in the muscular fibres, though this point is still in dispute. Of the functions of the nerves we know a good deal, of the functions of the ganglia nothing. His and Romberg suggest that from them are transmitted to the central nervous system infinitely delicately graded, unconscious impulses, which regulate the circulation reflexly through the vagus and accelerator. Of Kronecker's co-ordination centre our knowledge is still very indefinite—in deed, its existence has been called in question. I have seen Kronecker perform the experiment, and certainly when the point in the dog's heart is pricked—it is situated about the lower limit of the upper third of the ventricular septum—the organ becomes paralyzed in a state of fibrillary tremor, from which it does not recover. This point is within the area of distribution of the anterior coronary artery, the vessel oftenest found plugged by thrombus or embolus in cases of sudden death in man.

Do these cardiac nerves possess other properties? Have they also, with the special function, the endowment of receiving tactile and painful impressions? Certainly the heart is not an organ of very acute sensibility. The most extensive lesions, inflammatory, degenerative, and neoplastic, may not excite a single painful sensation. Pericarditis of the most intense grade, with deep involvement of the myocardium, may give not the slightest indication of its existence.

In experimental work, pinching of the heart muscle may excite reflex movements of the muscles of the body. There are a few interesting cases in the human subject in which the heart has been exposed by accident sufficiently to enable it to be grasped or touched. In the well-known case which Harvey gives\* of the young Viscount de Montgomery, in whom Charles I was so much interested, in consequence of a fracture of the ribs on the left side, with excessive suppuration, the heart was exposed, and from Harvey's account was quite insensitive: "Nempe, in homine vivente et vegeto, citra ullam offensam, cor sese vibrans, ventriculosque ejus pulsantes videret, ac manu tangeret. Factumque est, ut serenissimus Rex, una mecum, cor sensu tactus privatum esse agnosceret. Quippe adolescens, nos ipsum tangere (nisi visu, aut cutis exterioris sensatione) neutiquam intelligebat."

There is one other point of great importance. Sensory-nerve endings have been demonstrated in the arteries by Thoma, and recently Snirnow† professes to have

\* Described in *Johns Hopkins Hospital Reports*, vol. iv.

\* *Exercitationes de generatione animalium*, 1651, p. 311.

† *Anatomischer Anzeiger*, 1895.



demonstrated similar structures in the connective tissues of the heart, he thinks the sensory-nerve beginnings of the depressor nerve.

### Original Communications.

## THE DIFFERENTIAL DIAGNOSIS BETWEEN BENIGN LYMPHOMYXOMA AND MALIGNANT LYMPHOMYELOMA.\*

By JOHN A. BEUERMANN, M.D.

ANY one having examined a large number of tumors of the type of lymph tissue will admit that the differential diagnosis between benign and malignant forms is extremely difficult, especially without the knowledge of the clinical history. Virchow† speaks of a benign lymphoma, which he considers merely a hyperplasia of

lymph tissue, such as we meet with in mucous membranes, especially in children and young adults, are rather prone to proliferate and produce what rhinologists like to call "adenoids." On the other hand, we know

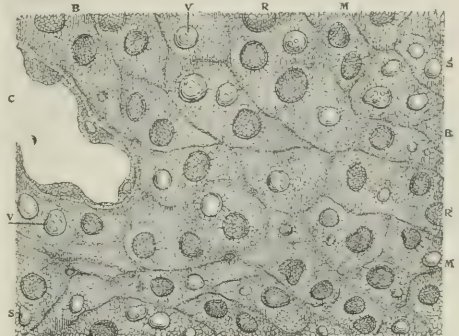


FIG. 2.—Lymphomyxoma (so-called "adenoid") of the turbinated bone, magnified 1,200. S.S. Small, solid lymph corpuscles. V.V. Vacuolated lymph corpuscles. R.R. Reticulated lymph corpuscles. B.B. Faintly reticulated basis substance. M.M. Myxomatous reticulum of lymph tissue. C. Capillary blood-vessel.

that in almost any organ of the body tumors called by Virchow small round-celled sarcoma, being of the type of lymph tissue, may arise. They are of rapid growth and considerable malignity, and have often no apparent connection with any normal lymph tissue.

I am convinced that on the ground of cellular pathology we shall never reach the solution of the puzzle

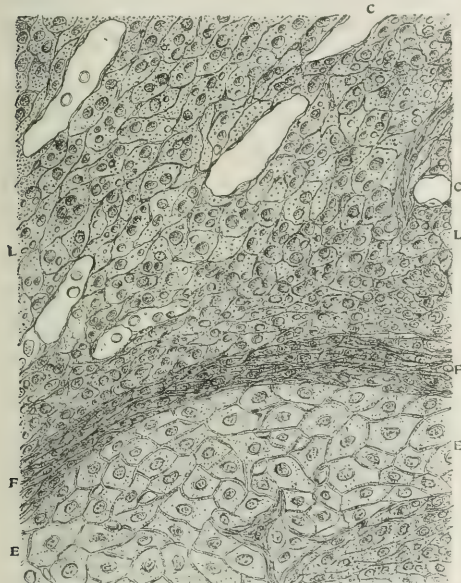


FIG. 1.—Lymphomyxoma (so-called "adenoid") of the turbinated bone, magnified 300. E.E. Epithelial layer. F.F. Myxo-fibrous layer surrounding the epithelial layer. L.L. Lymph tissue. C.C. Wide capillary blood-vessels.

lymph tissue, and a lymphosarcoma, which latter is characterized by the lack of persistence of its elements and the progressive and, at times, very acute growth of the tumor. He applies both these terms only to growths from the lymph ganglia, erroneously termed "lymph glands." To-day we know, however, that layers of

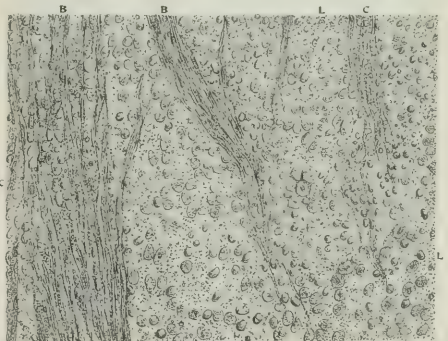


FIG. 3.—Lymphomyeloma of the testis, magnified 240. B.B. Bundles of fibrous connective tissue of the albuginea, much reduced in bulk. C.C. Myeloma elements, spring from previous fibrous connective tissue. L.L. Tissue of lymphomyeloma.

why a tumor of the structure of lymph tissue should at times be benign and at other times malignant. A solution of this puzzle seems possible only if we admit that the so-called protoplasm is traversed by a reticulum the points of intersection of which, previously termed granules, may grow out into solid lumps of living matter, which in further development become vacuolated, afterward reticulated, and at last transformed into nucleated protoplasmic bodies. Another point which will aid us

\* Read before the German Medical Society of the City of New York at its meeting, June 1, 1896.

† *Die krankhaften Geschwülste*. Berlin, 1864 and 1865.



in distinguishing between benign and malignant growth of lymph tissue is the fact that the basis substance of connective-tissue varieties is traversed by a reticulum of living matter being transformed into protoplasm. Normal lymph tissue, both of the lymph ganglia and the diffuse layers of the mucous membranes, is myxomatous tissue—i. e., a delicate, so-called stellate reticulum, holding in its meshes a certain amount of a soft, jellylike myxomatous basis substance and a varying number of lymph corpuscles. That such a stellate reticulum does exist in the lymph tissue all histologists now admit; but that this tissue is of the myxomatous variety is not as yet generally acknowledged. I do not hesitate to term what Virchow has called small round-celled sarcoma a lymphosarcoma, or preferably lymphomyeloma. Virchow's name sarcoma means a fleshy tumor, and does not truly designate a malignant tumor bearing all the

contain several lymph corpuscles, up to six in number. In some places, always of a limited extent, the lymph corpuscles are more crowded and the myxomatous reticulum less pronounced. These are obviously places where

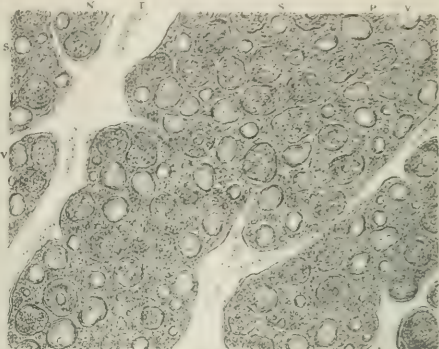


FIG. 5. Lymphomyeloma of the thyroid body, magnified 1,200. T.T. Trahecles of fibrous connective tissue, in hyaloid change, much reduced in bulk. S.S. Small and solid myeloma elements. V.V. Vacuolated myeloma elements. N.N. Folliculated, partly nucleated myeloma elements. P.P. Protoplasm between the elements, with coarse points of intersection.

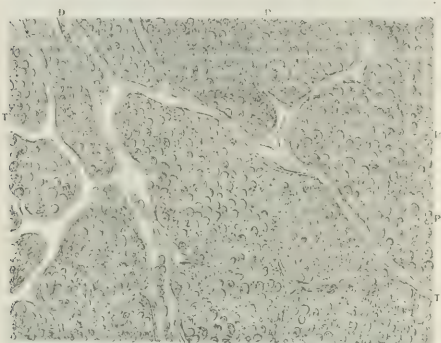


FIG. 4.—Lymphomyeloma of the thyroid body, magnified 300. T.T. Tracts of fibrous connective tissue, partly in hyaloid change. R. Vestige of a previous tract of fibrous connective tissue. D. Destruction of a tract of fibrous connective tissue by myeloma. P.P. Protoplasmic masses, with interspersed lymph corpuscles.

a more lively outgrowth of the living matter and the tumor is taking place, resulting in a temporary increase of the bulk of the whole tumor. I would lay stress upon the fact that the myxomatous reticulum is always traceable; certainly with less ease and distinctness in places where the lymph corpuscles form crowded masses than in the spot from which this drawing is taken.

The amount of blood-vessels is not to be considered typical for this kind of tumor; our case shows rather a goodly number of capillaries.

characteristics of an embryonal or medullary tissue. The word myeloma, as suggested by Dr. Carl Heitzmann, would readily indicate a tumor of the embryonal or medullary type.

Let us analyze with medium power of the microscope a so-called adenoid growth sprung from the mucosa covering the turbinated bone (see Fig. 1).

We perceive epithelial formations surrounded by a myxo-fibrous tissue, rather rich in small globular or oblong, non-nucleated elements. The main mass of the growth consists of lymph tissue—i. e., a protoplasmic reticulum, the meshes of which contain an indistinctly granulated basis substance and a number of so-called lymph corpuscles, formations of living matter, varying in size from a small homogeneous lump to a granular corpuscle, in which we recognize but exceptionally a distinct nucleus. The reticulum is mostly protoplasmic, but in many places fibrous, infiltrated with a glue yielding basis substance, and here and there even broader tracts or bundles of fibrous connective tissue are met with traversing the lymph tissue. Most of the meshes

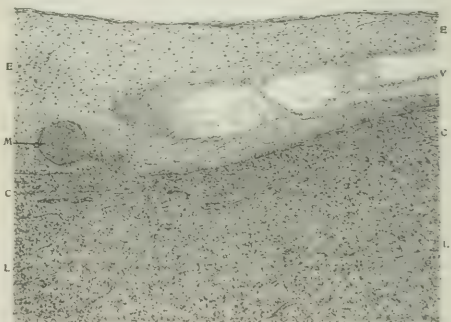


FIG. 6.—Lymphomyeloma-sarcoma of the tonsil, magnified 100. E.E. Stratified epithelial layer. V. Vesicle filled with an albuminous liquid within the epithelial layer. M. Nest of myeloma, penetrating the epithelial layer. C.C. Connective tissue capsule crowded with lymph corpuscles. L.L. Lymphomyeloma, with scanty tracts of fibrous connective tissue.

If viewed with a high power, such a tumor, for which I would suggest the name of lymphomyxoma, presents features quite characteristic, as shown in Fig. 2.

Here we see a myxomatous reticulum, well pronounced, exhibiting broadened points of intersection,

with interspersed nuclei in the broadened places. The meshes hold a myxomatous or mucoid basis substance, in which we have no difficulty in recognizing the extremely delicate reticulum of living matter, without taking recourse to any reagent whatever. In the basis substance we recognize small, glossy, and homogeneous lumps in a rather moderate number; then somewhat larger lumps, with a varying number of vacuoles in their interior; at last the larger lymph corpuscles, showing a distinct reticulum of living matter in their interior. Nucleated protoplasmic bodies, such as are seen even in normal lymph ganglia, especially in the centres of the follicles, are not present in the spot chosen for illustration, and are, indeed, scanty throughout the tumor under consideration. Whatever the size of these corpuscles be, they invariably show radiating spokes of living matter which enter into and inosculate with the reticulum of the basis substance.

The malignant lymphomyeloma (small, round-celled sarcoma of Virchow) presents to us quite a different aspect. Fig. 3 illustrates a section from one of these tumors of the testis. We not infrequently meet, in a malignant growth of this description, with an extremely delicate myxomatous reticulum, the meshes of which appear crowded with lymph corpuscles; in the spot I have selected here, however, such a myxomatous reticulum is entirely absent.

In the main mass of the tumor we fail to recognize any variety of basis substance, but it presents a mass of so-called coarsely granular protoplasm, in which we find imbedded, without any apparent regularity, a large number of elements which, owing to their size and shape, no microscopist could distinguish from lymph corpuscles. The number of somewhat larger coarsely granular protoplasmic bodies is far greater than in benign lymphomyxoma; the number of still larger nucleated protoplasmic bodies is quite conspicuous—so much so that the tissue here and there approaches the type of globomyeloma (large round-celled sarcoma of Virchow). In analyzing this tumor, we find larger masses composed of nucleated protoplasmic bodies; therefore we have a combination of lymphomyeloma and globomyeloma, as may be, indeed, observed in a majority of myeloma tumors of a pronouncedly malignant type.

Similar features are found in an extremely malignant lymphomyeloma of the thyroid body, which shows vestiges of previous walls and alveoli (Fig. 4).

High powers of this tumor plainly exhibit the typical features of an intensely malignant and rapidly growing lymphomyeloma (see Fig. 5).

A few tracts traverse the myeloma tissue, being in so-called hyaloid degeneration and not exhibiting any distinct structure. In the myeloma tissue itself we notice numerous comparatively large points of intersection of the living matter, evidently the starting-point for the formation of lymph corpuscles. We can trace all stages, from a minute granule to a distinct glossy lump,

not showing any structure as yet. The large number of such lumps is certainly indicative of rapid growth, and therefore of considerable malignancy of the tumor. After the lumps have gone through the process of vacuolation, they assume that of reticulation, and then these bodies are in the condition termed by the older pathologists "coarsely granular." In our present views this so-called coarse granulation signifies a considerable increase of living matter, even in the stage of reticulation of lymph corpuscles. A good many protoplasmic bodies in the reticular stage exhibit central lumps of living matter, generally termed nuclei. Even these nuclei show stages of development from a solid homogeneous to a vacuolated and at last reticulated lump of living matter.

The second point that I would consider of great value for the distinction between a benign lymphomyxoma and a malignant lymphomyeloma is the condition of the fibrous connective tissue, either surrounding the invaded organ in the shape of a capsule, or traversing the same in the shape of trabeculae in alveolar structure, or as interstitial tissue in glandular organs. Whereas in benign lymphomyxoma the capsule surrounding the tumor remains unchanged and always well pronounced, in malignant lymphomyeloma the amount of fibrous connective tissue is invariably reduced in a considerable degree. In Fig. 3 we see the albuginea of the testis in this condition. In analyzing such fields we easily reach the conclusion that the fibrous connective tissue is transformed into the tissue of the myeloma. While the myeloma tissue increases, the amount of fibrous connective tissue steadily decreases in bulk; in other words, the myeloma grows at the expense of the fibrous connective tissue. With higher powers of the microscope we can satisfy ourselves that it is not only the tracts of protoplasm between the bundles which give issue to the myeloma, but the bundles themselves, respectively their basis substance, likewise are transformed into myeloma through the intervening stage of a transformation of this basis substance into protoplasm, from which it had arisen. This fact is not surprising to the microscopist, who is aware of the fact that the fibrous, as indeed any other variety of connective-tissue basis substance, is traversed by a large amount of living matter in reticular arrangement. Thus nothing is required but a liquefaction of the glue-yielding substance in order to re-establish its protoplasmic condition. In Fig. 4 tracts of fibrous connective tissue are seen traversing the myeloma tissue, partly in a hyaloid degeneration, therefore not exhibiting everywhere a plainly fibrous structure. The tracts in many places gradually blend with the myeloma tissue, or are pierced by rows of protoplasmic bodies, plainly indicating the manner in which the fibrous connective tissue perishes as such, and is transformed into myeloma tissue. This process can be still easier traced with high powers of the microscope, under which many of these tracts appear partly transformed into, at first, the so-called finely granular, and



later into a coarsely granular protoplasm, which directly gives issue to the so-called lymph corpuscles by the growth or development of the points of intersection of the living matter. The observation of this transformation of the capsule of the lymph ganglion, called tonsil, is of especial value (Fig. 6).

Whenever a rapid growth takes place in the tonsil, the question comes up whether this growth is due to a merely hyperplastic or inflammatory process, which would be benign, or to a malignant growth known to endanger the life of the patient. In the former instance the follicles are invariably preserved, and the capsule environing the tonsil is always plain, representing a more or less broad layer of fibrous connective tissue, bordering the lymph structure toward the epithelial cover. As soon as the lymph tissue has assumed the malignant type of lymphomyeloma the follicles perish, since the boundary line is lost to sight and the enveloping capsule is much reduced in bulk by being crowded with lymph corpuscles. These two features are sufficient, in my opinion, to establish the diagnosis of a malignant lymphomyeloma of the tonsil, which, fortunately, is of rare occurrence.

The third typical point for the distinction between a benign lymphomyxoma and a malignant lymphomyeloma is the behavior of the epithelial structures, either covering the surface of the tumor or being present in the shape of acinous or tubular glands in the lymph tissue of the mucous membranes. Fig. 1 illustrates an epithelial layer sharply bordered by myxofibrous tissue toward the myxomatous lymph tissue of the tumor. This means that the growth of lymph tissue will never affect or destroy the epithelia. This is quite different with malignant lymphomyeloma, which invariably will transform either the cuboidal epithelia of acinous glands or the columnar epithelia of the tubular ones into myeloma. Rapidly growing lymphomyeloma will by degrees completely destroy and transform into its own type all epithelial formations of glands. In Fig. 3 a portion of a malignant myeloma of the testis of the size of a man's fist is illustrated, nowhere exhibiting even the slightest trace of previous seminiferous tubules. The same is the case with the lymphomyeloma of the thyroid body, drawn in Figs. 4 and 5, in which all epithelial structures have been destroyed. In Fig. 6 the stratified epithelium covering the tonsil is pierced by a globular field of lymphomyeloma, obviously originating from transformation of originally epithelial into myelomatous tissue. The spot where the invasion of the latter tissue was effected is plainly seen in the drawing. To the right of the myeloma nest may be seen a follicle, filled with albuminous liquid, such as are frequently seen in the aural epithelium. To the left of this follicle the stratified epithelium was found almost completely destroyed and transformed into the tissue of myeloma to a considerable extent.

I have abstained from illustrating the transformation

of epithelial into myelomatous tissue, since there exists quite a literature on this topic, with numerous illustrations. I refer to the essays of Dr. Rudolf Tauszki,\* Dr. Louis Heitzmann,† and Dr. Charles Dixon Jones.‡

What I have stated in this paper has reference solely to the microscopic features of the tumors under consideration. Fortunately, the clinician is often enabled to establish a diagnosis from the clinical features and the history of the case. Neither microscopists nor clinicians, however, should consider themselves infallible; in doubtful cases, unquestionably, the microscope should be called upon to determine the intimate nature of a tumor of the type described.

1891 LEXINGTON AVENUE.

### REPORT OF FIVE CASES OF UTERINE RETRODISPLACEMENT TREATED BY VAGINAL FIXATION (MACKENRODT).\*

By FREDERICK HOLME WIGGIN, M.D.,  
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DURING the last few years, differences of opinion have been so great as to the proper method of treating retrodisplacements of the uterus which give rise to symptoms, by operative measures, that reports of cases, especially those treated by the more recent procedures, are of interest, and will be useful in helping us to form an opinion as to the best method for relieving this, at times, annoying local trouble.

VAGINO-FIXATION, FOLLOWED BY CURETTAGE, OOPHORECTOMY, AND APPENDICITIS.—B. S., a married woman, twenty-seven years of age, was admitted to the gynecological ward of the City Hospital, November 22, 1895. She stated that her first menstrual period occurred during her fifteenth year, that the menstrual flow was regular, of the tri-weekly type, and that it was preceded by pain located in the lower abdominal region. Eight years ago she had had a child, the labor being normal in all respects. Five months prior to admission, her last menstrual flow had occurred, and since that time she had suffered from metrorrhagia. Vaginal examination revealed an enlarged, hard, tender, and retroplaced uterus, accompanied by an enlarged and tender ovary on its right side. The case was diagnosed as one of "chronic endometritis, retrodisplaced uterus, and small ovarian cyst." On December 2d, after the usual preparation of the patient, and under ether narcosis, she was re-examined vaginally, and as the right ovary felt smaller than

\* Ueber die durch Sarkomwucherung bedingten Veränderungen des Epithels. *Sitzungsber. d. kais. Akad. d. Wissensch. in Wien*, vol. lxxiii.

† The Differential Diagnosis between Fungous Endometritis and Tumors of the Mucosa of the Uterus. *American Journal of Obstetrics*, etc., 1887.

‡ Study of the Minute Anatomy of Fungous Endometritis and Myeloma of the Uterus. *New York Medical Journal*, 1894.

\* Read before the Society of Alumni of Bellevue Hospital, March 4, 1896.



when the previous examination was made, it was decided not to open the peritoneal cavity, but to perform curettage and vaginofixation of the uterus, after it had been anteverted, according to the method devised by Mackenrodt, of Berlin. These procedures having been carried out in the usual manner, excepting for the fact that no gauze was placed in the uterine cavity, the convalescence was uneventful, and the patient left the hospital with the uterus in good position on December 30th.

On January 5, 1896, the patient was re-admitted to the gynecological service of the hospital, complaining of much pain in her right side. On January 13th, after the usual preparation of the patient, and under ether narcosis, the abdominal cavity was opened by an incision to the left of the median line, splitting the rectus muscles of that side and incising the other tissues. The uterus was found to be well anteverted and adherent. Several small cysts were found in the left ovary. These were excised, and the resulting wounds were sutured with fine silk. The right ovary contained a larger cyst, and as there appeared to be no normal ovarian tissue, it was removed after the peritoneal cavity had been freely irrigated with normal saline solution. The wound in the abdominal wall was closed by a single row of silkworm-gut sutures, which were passed through all the layers of tissue.

On January 22d the patient's bodily temperature rose to 103° F., and she complained of severe abdominal pain in her right inguinal region, radiating down her right thigh. Vaginal examination at this time proved negative. As the symptoms continued with unabated severity, on January 23d, under ether narcosis, the pelvic cavity was opened by an incision in the posterior vaginal wall, and the region explored with the finger. Palpation revealed the fact that there were no adhesions about the left ovary, but that high up on the right side some adhesions existed. Those within reach were broken up, but no pus escaped. After free irrigation, a piece of iodoform gauze was placed in the pelvic cavity for the purpose of effecting drainage should the abscess rupture in this direction. On January 24th, the vaginal packing and pelvic gauze were removed, but there was no discharge of a purulent character. The patient's temperature was 104°, and she complained of severe, lancinating pain in the right inguinal region. On January 25th, the patient's condition was unchanged. She was prepared and placed under ether narcosis, and the abdominal wall was incised. In this way a large abscess was reached and evacuated. It seemed probable that it was of appendiceal origin, as at the time of the oophorectomy the appendix was adherent, but as it did not appear to be much injured, on examination, it was not removed. The further convalescence was uneventful.

Lizzie S., a single woman, twenty-three years of age, was admitted to the gynecological service at the City Hospital, January 22, 1896. She stated that her first menstrual period occurred during her thirteenth year; that it had been irregular and painful. She had had one child, one year prior to admission. The labor had been severe, and had been followed by some hemorrhage, fever, abdominal pain, and a vaginal discharge, which had continued. Vaginal examination revealed the facts that the uterus was somewhat enlarged, that it was movable, but that it was posterior.

On January 27th, after proper preparation of the patient, and under ether narcosis, the cervix was dilated, and the uterine cavity curetted and irrigated with a 1-to-4,000 bichloride solution. The anterior vaginal wall was

next incised, and after the bladder had been separated from the uterus the fundus was caught by bullet forceps, drawn forward, and fastened to the vaginal flaps by means of two heavy catgut sutures. The vaginal wound was closed with the aid of interrupted catgut sutures. The patient's convalescence has been uneventful, her bodily temperature hardly rising above normal. The menstrual flow was re-established on February 22d; it was painless, and of four days' duration. In March it was noted that the uterus had remained in good anterior position.

S. C., a single woman, was admitted to the gynecological ward of the City Hospital on December 10, 1895. She stated that her first menstrual period occurred during her ninth year, and that the menstrual flow had been regular and of the monthly type until recently. It had always been accompanied by pain in the sides and back. Eight months ago she had had a child, and since that time her health had been poor, as she had suffered from menorrhagia and metrorrhagia. Vaginal examination revealed an enlarged, tender, and retroplaced uterus. On December 14th, after the patient had been prepared in the usual manner and under ether narcosis, the cervix was dilated and a curettage performed. After this, Mackenrodt's operation was performed. The patient's convalescence was uneventful.

On December 30th, as she complained of pain in her lower abdomen, an exploratory laparotomy was performed. The position of the uterus was satisfactory. The appendages were somewhat adherent, but were otherwise normal. After the adhesions had been broken up, and the peritoneal cavity had been freely irrigated with hot saline solution, the abdominal wound was closed by a single row of silkworm-gut sutures passing through all the different layers of tissue. The wound healed primarily, and the convalescence was uneventful. On January 22d the patient was allowed to leave her bed. On January 29th it was recorded that on vaginal examination the uterus was found to be anterior, and that the patient had stated that her pain had disappeared.

M. G., a widow, thirty-two years of age, was admitted on November 14, 1895, to the gynecological ward of the City Hospital. She stated that her first menstrual period occurred during her fourteenth year; that menstruation had been regular and of the monthly type, but painful before the flow was established, and that this pain was felt in the lower abdomen and small of the back. Her last menstrual period had occurred on November 1st, and since that time she had been suffering from metrorrhagia. She also stated that three years ago she had undergone a laparotomy for the removal of an ovarian cyst, and that this had been accompanied by an attack of cystitis. Three months prior to admission to the hospital she had undergone a curettage and a trachelorrhaphy. Vaginal examination revealed the fact that the patient had a large protococele, that stenosis of the external os existed, and that the uterus was retro-displaced.

On November 22, 1895, after the patient had been prepared in the usual manner, and had been placed under ether narcosis, the cervix was drawn down, and after a probe had been passed into the cervical canal the latter was incised and dilated. The uterine cavity was then curetted, and after irrigation an Outerbridge dilator was introduced into, and left in the cervical canal. After this, the anterior vaginal wall was incised, the bladder separated, the uterus anteverted, and attached to the anterior vaginal wall, according to the method of Mack-

enrodt, of Berlin. The peritoneal cavity was not opened. The patient's convalescence was uneventful, excepting for the fact that the necessary catheterism lighted up the chronic vesical inflammation which had existed for some years prior to the last operation. This made it necessary to wash out the bladder with a boric-acid solution. On December 11th it was noted that the wound of the anterior vaginal wall was healed excepting at one small point, and that the uterus was anteverted and adherent. On December 20th the cervical dilator was removed, the canal being well opened. On January 29th it was found that the position of the uterus was satisfactory.

S. S., a single woman, eighteen years of age, was admitted to the gynecological ward of the City Hospital on December 12th, 1895. She stated that her first menstrual period occurred during her eleventh year, that menstruation had been more or less irregular, and that it had been accompanied by pain before, during, and after the flow had been established. She had had no children, but in May, 1894, she had had a miscarriage at two months, which had been followed by a long illness of a feverish nature, and by severe pain in the lower abdominal region. This pain had been rather more severe on her left side, and had radiated into the small of the back and down both thighs. It had been increased by the upright position or by walking. She also stated that she had had syphilis, the first symptom of which had appeared during June, 1894, and that in March, 1895, she had submitted to a curettage, which procedure had temporarily improved her condition. Vaginal examination revealed the fact that the uterus was enlarged, tender, and retroplaced, and that an enlargement of the right ovary existed.

On December 30th, after the usual preparation, and under ether narcosis, the anterior vaginal wall was incised, the bladder separated, the fundus of the uterus drawn forward, and the vesico-uterine fold of the peritonæum incised. On examination, the left ovary and tube proved to be normal, but the right ovary was found to contain a cyst, and this was removed. The uterus was then attached by three catgut sutures to the anterior vaginal flaps, which were united by a continuous suture of catgut. On January 4th there was a slight elevation of the patient's temperature, and she complained of colicky uterine pain. Vaginal examination revealed the fact that the uterine body was acutely flexed on the cervical portion, the sutures having been placed too low down on the body. Under chloroform anesthesia the sutures were removed and some of the adhesions broken up, and the uterus placed in a better position. It was found that these adhesions were already very strong. The patient progressed favorably until January 15th, when she was attacked by scarlet fever, and was removed to the Willard Parker Hospital.

In the cases herewith reported, with the exception of the fifth, the vesico-uterine fold of the peritonæum was not divided. The failure to do this necessitated the performance of a second operation at an early day in Case I. The writer believes that in all cases thought to require this operation, the vesico-uterine fold of the peritonæum should be divided, and the exact condition of the annexa determined by aid of sight as well as by touch. This addition to the original technic does not in any way increase the slight risk which the patient runs who is subjected to this procedure. The opposition to this

method of treating uterine retrodisplacements which has been encountered of late by Mackenrodt has, Dr. Vineberg believes, been due to the employment of faulty technics. In this view the writer concurs. Recently it has been stated in various journals that Mackenrodt has abandoned this procedure. In view of these reports, the writer communicated with Dr. H. F. Brownlee, of Danbury, Conn., who had recently visited Dr. Mackenrodt's clinic, and asked him to express his opinion as to the correctness of these statements. He has received the following reply:

MY DEAR DOCTOR: In reply to yours of yesterday, I have not seen the statement you refer to, and can hardly believe that it is reliable. I spent two months in Berlin last summer (June and July), and took a private course with him during that time, and became quite well acquainted with him. At that time he was thoroughly satisfied with his operation, but was making a strong fight against the method used by Dührssen, Olshausen, and others—i.e., the fixation of the fundus with silkwormgut. He makes a point that where only catgut is used, the uterus is held only by adhesions, and that these adhesions do not interfere with pregnancy, while a silkworm or any other non-absorbable suture is a serious danger if pregnancy takes place. He told me that in a great number of his cases the patients had borne children since operation with no trouble whatever.

He has said for a long time that trouble would arise from these permanent stitches, and a short time before my departure his prophecy was fulfilled in a case at the Charité, where a laparotomy was necessary to delivery. A Porro operation was done, I think by Gusserow, resulting fatally, and the case was exhibited at a subsequent meeting of the Berlin Gynecological Society.

I believe Mackenrodt to be a thoroughly honest man, and if he were convinced that his operation was wrong he would readily acknowledge it, but I do not believe the statement true, for I think it impossible for him to have made such a radical change after two years' experience, and being so well satisfied at such a recent period.

I have done two operations here; my first was all right, and the result so far good. It was done in October, 1895. My second was unfortunate through some faulty catgut, which gave way on the second day, allowing the fundus so much freedom that I did not get adhesions firm enough to hold, and in three months the fundus was again in the posterior *cul-de-sac*. I did the operation over again, four weeks ago, and used kangaroo-tendon sutures for the fundus (two). The result so far is good. Of course, both of these cases are too recent to form definite conclusions, and neither patient has become pregnant, so the cases are of no use to you.

The writer believes that if the process about to be described is adhered to, the results obtained will prove entirely satisfactory, and that the operation of vaginal fixation will, in time, be proved to be the most satisfactory means at our command for the permanent relief of those suffering from retrodisplaced uteri. The patient is prepared as for a vaginal hysterectomy, and is placed on the table in the dorsal position, with the thighs flexed and held in place by a Clover crutch. As in this class of cases there is more or less endometritis, it is well to begin the operation by curetting the uterus with a sharp



curette, gauze not being placed in the cavity. Any existing laceration of the cervix should be repaired, sutures of catgut being used. These steps having been taken, the cervix is grasped and drawn downward and forward by the aid of a bullet forceps. Then a portion of the anterior vaginal wall, about three quarters of an inch below the meatus urinarius, is taken up in the same way and drawn forward and upward, thus stretching the wall. An incision is made, beginning at the last-named point and continuing to the cervix. If this wall is more or less prolapsed, the incision, instead of being straight, should be oval, allowing for the removal of sufficient tissue to overcome this defect when the sutures which close the vaginal wound are placed. These flaps are dissected from the inferior surface of the bladder, into which a sound is passed, and by its aid the thickness of the bladder wall is estimated and its lower border defined. A needle, threaded with pedicle silk, is passed through the inferior edge of either flap and tied, the ends being kept long. These serve as retractors, and, the flaps being held aside, a curved transverse incision is made at the cervico-vesical junction. The bladder is freely separated from the uterus by blunt dissection with the finger, the vesico-uterine fold of peritonæum being divided by the aid of scissors. The patient's hips are elevated, which allows the bladder and intestines to gravitate from the uterus, the fundus of which is brought into view and is seized with a bullet forceps and drawn forward. The ovaries and tubes are inspected, after any existing adhesions have been broken up, and if diseased are removed. A suture of chromicized catgut or kangaroo tendon is passed by means of a curved Hagedorn needle through the left vaginal flap at a point slightly distant from its superior margin, then through the muscular tissue of the anterior uterine wall, close to the fundus, and then through the right vaginal flap near its upper margin. A second suture is passed in the same way, about one third of an inch below the first. The uterus being well anteverted, the sutures are tied loosely. The balance of the wound in the anterior vaginal wall, after free irrigation with saline solution and the application of hydrogen dioxide, if there is much oozing, is closed by means of interrupted sutures of horsehair, and the wound is sealed by painting it over with a ten-per-cent. solution of iodine in ether. A small quantity of gauze is placed in the vagina for the purpose of effecting drainage, and an antiseptic pad is applied to the vulva.

55 WEST THIRTY-SIXTH STREET.

**The Kentucky School of Medicine.**—We learn that we were in error in stating, in the last issue of the *Journal*, that the chairs occupied by Dr. W. H. Wathen and Dr. M. F. Coomes had been declared vacant. They are still occupied by those gentlemen. We are informed that at a recent meeting of the faculty the following appointments were made: Dr. Louis Frank, lecturer on clinical and operative gynecology; Dr. Henry E. Tuley, lecturer on obstetrics; Dr. Carl Weidner, lecturer on physiology; Dr. W. E. Grant, lecturer on anatomy; Dr. Ewing Marshall, lecturer on physical diagnosis; Dr. T. C. Evans, lecturer on ophthalmology, otology, and laryngology.

## OBSERVATIONS ON THE LOCAL USE OF HYDROCHLORIC ACID IN BONE NECROSIS OF TUBERCULOUS ORIGIN.

WITH A REPORT OF CASES.\*

By JEROME HILTON WATERMAN, M. D.

HAVING been invited to report my observations on the local use of hydrochloric acid in bone necrosis of tuberculous origin, I will present the results of a series of cases which I have recently treated by this method at the Hospital for the Ruptured and Crippled, New York.

There were in the hospital at this time several cases of necrosed bone of tuberculous origin which failed to respond to the usual method of treatment. In some of these the most radical operative means had been employed, the bone being thoroughly curetted and all the necrosed tissue supposed to have been removed. Sinuses subsequently formed, and an examination under an anæsthetic revealed the fact that necrotic bone was still present. In the other cases of the series, irrigation with solutions of bichloride of mercury, hydrogen peroxide, packing with various kinds of gauze, and the injection of creosote and protonuclein into the sinuses had been painstakingly employed for many months without favorable results, either in decreasing the amount of discharge or in allaying the progressive character of the pathological condition. Confronted with these unsatisfactory results, I resolved to try the application of hydrochloric acid. We find by experiment that the action of the acid on healthy bone is limited to the decomposition of the mineral constituents, consisting principally of phosphates and carbonates of calcium, together with small quantities of the alkaline salts; so far as we know, not affecting the animal matter. Since in necrosed bone we have only these mineral salts remaining, the chemical action of the acid is more particularly confined to the diseased part, dissolving it without exerting any destructive influence on the underlying tissue. In this fact lies one of the real merits of the treatment, for the diseased tissue being removed, the process of reparation can go on unobstructed.

Now, as to the method of employment: The acid was used in the concentrated form, whereas heretofore for the most part dilute solutions and solutions in combination with various substances have been used by other writers. The number of minims injected in each individual case depended, of course, on the amount of bone which was diseased and on the general condition of the patient. It is preferable not to use the acid more than twice a week, owing to the reaction and pain which might result. However, contrary to expectation, but little pain was experienced, and this I attribute in part to the fact that the patients were accustomed to more or less manipulation, having been dressed daily for several months, and also to the anæsthetic effect of the acid.

\* Read by invitation before the American Orthopaedic Association at its tenth annual congress, May, 1896.



In case it should produce undue discomfort, it is advisable to spray the tissues with a four-per-cent. solution of cocaine or cocaine and morphine a few minutes before injecting the acid; or I would suggest as an admirable substitute the chloride-of-ethyl spray. It was my custom to thoroughly wash out the sinus with sterilized water in order to remove any pus or detritus, and thus permit the acid to penetrate all of the diseased bony tissue.

The ordinary sterilized glass pipette was found to be the most practical means for the application of the acid. The tube was introduced to the bottom of the sinus and the contents deposited directly upon the necrosed structure. After this, I usually allowed a minute to elapse, then irrigated the sinus with a saturated solution of bicarbonate of sodium, and then applied a wet myrrh dressing. My object in using the latter in preference to dry dressings was because of the marked fetor noticed in many instances after the first two or three injections. This is accounted for by the destruction of soft tissues, and was more pronounced when the patient moved and the application was not made directly to the bone, but dropped partly on the surrounding tissues.

In certain cases of the series it was necessary to enlarge the opening during the course of treatment, particularly when the granulations were so exuberant as to protrude into the lumen of the sinus, but in the majority of instances they could be removed by the introduction of a probe.

Having described in a general way the method of application, it will be of interest to relate the existing conditions at the time the treatment was begun, as well as the final results attained.

CASE I.—V. B., aged ten years. Diagnosis: left hip disease, third stage. The patient was admitted into the hospital in July, 1894. In August, a large abscess on the antero-external part of the thigh opened spontaneously. Since that time the discharge has been profuse. In January, 1896, an examination showed the presence of a small amount of necrosed bone, and hydrochloric-acid applications were begun. There were two minims injected twice a week for the first five weeks and no improvement noticed; so I decided to increase the amount to six minims a week for the next three months, after which it was discontinued on account of the patient's general weakened condition. An examination last week, four and a half months after the inception of the treatment, showed that the sinus had so completely closed as to render it impossible to insert a probe into the opening.

CASE II.—M. S., aged thirteen years. Diagnosis: left hip disease, third stage. This child was admitted December 18, 1894. In August, 1895, a deep femoral abscess was detected and an excision of the hip was performed. Suppuration followed, and daily irrigation with various antiseptics producing no effect, the acid treatment was begun. The patient presented at this time an opening on the anterior aspect of the thigh and another leading to the ilium. Into both sinuses were injected four minims of the acid twice a week, receiving in all ten applications. During the course of the treat-

ment the dressings were so fetid that it was necessary to keep the patient apart from the others in the ward, but I do not attribute this to the acid alone, as the same condition existed to some extent prior to the treatment. The discharge was much less after the first six weeks, but at the present time the sinuses have shown no tendency to close.

CASE III.—W. B., aged eight years. Diagnosis: right hip disease, third stage. The child was admitted into the hospital in May, 1893. There being some fluctuation about the hip joint, the patient was aspirated, and later an incision was made in order to establish better drainage. In January, 1895, there were four sinuses around the joint, all discharging copiously. Since all efforts to heal them proved futile, in January, 1896, the patient began having injections of the acid. As the sinuses were thought to communicate, only the one on the anterior part of the thigh was injected, three minims twice a week being applied. The discharge decreased and the sinuses gradually became smaller, but the general condition of the patient in this case was so poor that treatment had to be discontinued. Three weeks ago the child was removed from the hospital and has since died of phthisis.

CASE IV.—A. V., aged five years. Diagnosis: tuberculous osteitis of the right knee. This child was admitted into the hospital November 13, 1895. The patient had a sinus over the anterior surface of the head of the tibia, which has been dressed daily for five months. In January, 1896, the applications of the acid were commenced and continued twice a week for ten weeks. One month after its discontinuance the sinus was nearly closed.

CASE V.—W. C., aged four years and six months. Diagnosis: right hip disease, third stage. The patient entered the hospital in March, 1895. In October the bone was curetted under ether. After two weeks the sinus again opened into the wound. Three months later, when I began injecting the acid, there was on the upper posterior aspect of the thigh a large sinus leading to the bone. Two minims were introduced twice a week for four months. As there was no improvement, I abandoned the treatment.

CASE VI.—A. K., aged twelve years. Diagnosis: left hip disease, third stage. This case was admitted in January, 1895. The child had an abscess opened in another hospital before entering here. An examination showed a deep sinus on the external part of the thigh and another posteriorly. The former was treated with hydrochloric acid and the latter packed with iodoform gauze at each dressing. The sinus thus treated with the acid has entirely healed, while the other still discharges profusely.

CASE VII.—W. M., aged nine years. Diagnosis: spinal disease involving the lower dorsal vertebrae. The case was admitted in October, 1894. An abscess over the twelfth dorsal vertebra was aspirated and four ounces of pus withdrawn. An incision was afterward made to establish drainage. After being dressed four times a week for eight months and no noticeable improvement resulting, I commenced using hydrochloric acid, injecting three minims twice a week for four months. At the present time the sinus is not entirely healed, but the discharge is very much diminished. The patient will remain under the same treatment for another month, as this is an unusually large sinus with more necrosis present than in the other cases of the series.

CASE VIII.—M. P., aged five years. Diagnosis: left

hip disease, third stage. The child was received in February, 1895, when an excision of the hip was performed. The patient was discharged in June, but readmitted in August, having marked infiltration about the joint and discharging sinuses on both the anterior and posterior aspect of the femur. In September the sinuses were curetted, under an anæsthetic. A few weeks afterward, however, they again began to discharge and daily irrigations of bichloride of mercury (1 to 5,000) were used. This treatment was continued for three and a half months, after which the acid was applied. Four minims were introduced into each sinus twice a week for four months and a half, and at the present writing both of them are closed.

In these eight cases I can record four apparent cures. In numbers two and five I would suggest the possibility that either the necrosed area was larger than the probe indicated, so that not sufficient acid has as yet been applied to effect its solution, or that another area of necrosis exists at some distant point not determined by the probe. Should these conditions be present, operative methods are necessary.

The conclusions which may be drawn from the above cases are as follows:

1. No evil effects have resulted from its use.
2. The use of the acid in its concentrated form is preferable.
3. When the area of necrosis is extensive, operative methods are advised.
4. Its action is limited to the necrosed area; whereas curetting may remove both diseased and healthy bone.
5. By the disintegration of the dead bone the newly formed tissue has a better opportunity for its more rapid development.

I feel warranted in stating that the further use of hydrochloric acid as a local application in the treatment of bone necrosis of tubercular origin is not only justifiable, but deserving the attention of the medical profession.

I am greatly indebted to Dr. Virgil P. Gibney, the surgeon in chief of the Hospital for the Ruptured and Crippled, for the many and valuable suggestions given for carrying out these observations.

#### THE INDICATIONS FOR PERFORATING THE MASTOID IN ACUTE AND SUBACUTE MIDDLE-EAR INFLAMMATIONS.\*

BY FELIX COHN, M. D.

In deciding whether, in a given case of acute or subacute middle-ear inflammation, the inflammation has extended to the mastoid, and whether the mastoid operation should be performed, we should not attempt to depend upon any one symptom nor should we schematize, but rather consider the symptomatology of each case

carefully in its closest details and from the complex of symptoms form our diagnosis of mastoid involvement. In one case the local symptoms might be so obscure that possibly only the general condition of the patient would decide us to operate; in another, a noticeable swelling over the mastoid would make the diagnosis of mastoid complication and the indication for operative interference obvious. In order, therefore, to formulate a scientific indication for operative interference, a careful study of the otoscopic condition, a consideration of the patient's subjective condition, a physical examination of the parts about the ear, of the mastoid, of the glands, of the skin, are necessary.

The symptomatology upon which we base our indications depends entirely upon the pathology of the occurring complications, and a brief review of these complications from a pathological point of view will therefore aid us in formulating our indications.

The post-mortem examinations of Tröltsch and Bezold have taught us that congestion of the antrum and mastoid cells is a frequent complication of acute middle-ear inflammations, and probably always present in that form of acute otitis which occurs in the course of infectious diseases. In some cases the congestion was not recognizable during life. In spite of these post-mortem findings, we all know that all cases of acute middle-ear disease do not require operative interference; as the middle-ear affection subsides the congestion and exudation in the cells no doubt disappear. These congestive conditions of the mastoid cells may be compared to the inflammations of the accessory sinuses of the nose occurring during an attack of coryza or influenza. It is very rarely that the inflammation of these sinuses terminates in the formation of abscesses, but the congestion usually disappears with the rhinitis. What the causes are which produce conditions in a mastoid requiring operative interference have not yet been fully determined. We can, however, on general principles assume that a maximum of congestion, primary and secondary microbic invasions, perhaps also the morphological and anatomical condition of the mastoid itself—as, for instance, the topographical relation of the antrum to the aditus and tympanic cavity, the size of the antrum, the number and size of emissary veins and lymphatic channels—are the ætiological factors producing those pathological states of the mastoid requiring surgical measures.

While congestive conditions frequently get well without operative interference, there are many cases of acute middle-ear disease in which the congestion is replaced by actual inflammation both in the antrum and mastoid cells as well as of the mastoid bone and its periosteum, constituting conditions of mastoid osteitis and periostitis and catarrhal and purulent inflammations of the mastoid cells, the latter condition well known under the designation of antral empyema. These pathological conditions are the ones which usually require our surgical interference. Let us, for a moment, follow the course

\* Read before the Manhattan Medical and Surgical Society.



of an antral empyema if left to itself. If the drainage is sufficient the pus may be discharged into the tympanic cavity and through the tympanum, and under favorable circumstances the abscess may be evacuated through the middle ear. If the drainage is imperfect, or the reactive inflammation very intense, the abscess, as frequently happens with children, may gradually break through into the periosteum and, creeping along the external canal and along the mastoid fissure, form a cutaneous abscess either above the auricle or immediately behind the ear, or, in some cases, from below into a submastoid or cervical abscess, or, instead of following the path just described, provided the cortex of the mastoid is not too thick, by gradually breaking through the cortex form a subperiosteal or cutaneous abscess over or in the neighborhood of the mastoid. I have so far enumerated favorable conditions. In those cases in which the mastoid happens to be abnormally dense, the empyema may become latent, producing by absorption of the pus general pyæmic or septicæmic conditions, or, if the reactive inflammation remains, perforate inwardly and upwardly through the roof of the antrum, or laterally and downwardly toward the lateral and sigmoid sinus, producing direct secondary complications, extending beyond the mastoid, well known and not too infrequently observed, such as subdural abscesses, purulent meningitis, sinus phlebitis, and purulent sinus thrombosis. The reactive inflammation in the cells causes frequently, by direct extension, a concomitant mastoid osteitis and periostitis, and, without necessarily perforating, an inflammation or an abscess of the antrum may, through extension of the inflammation along the venous and lymphatic channels in the mastoid, produce serous or purulent leptomeningitis, sinus thrombosis, metastatic cerebral abscesses, lymphangitis, lymphadenitis, and even pseudo-erysipelasous inflammations about the mastoid.

The pathological changes in the mastoid do not always go hand in hand with the condition in the middle ear; it is therefore not infrequent to find a catarrhal form of middle-ear disease accompanied by an abscess of the antral cells, or by an acute inflammation of the antrum and mastoid bone, which in their turn maintain the inflammatory condition of the middle ear and prevent the acute otitis from resolving; or, one of the cells alone, not necessarily the antrum, may contain one or two drops of pus, likewise acting as an irritative focus for the maintenance of the middle-ear inflammation. For the sake of completeness, I would also mention that a secondary involvement of the antrum or mastoid bone occurs sometimes after the middle ear may have been completely restored to a normal condition.

We have so far seen that the following complications occur in acute inflammations, which we may group into primary and secondary complications. As primary, we have found congestion of the mastoid and cells, mastoid osteitis, mastoid periostitis, empyema of the mastoid and mastoid cells; as secondary complications, subdural

abscesses, meningitis, serous or purulent, sinus phlebitis, sinus thrombosis, lymphangitis, lymphadenitis, cutaneous abscesses, and pyæmic and septicæmic conditions.

If we bear in view these pathological facts, it will be very easy to study the symptomatology of mastoid complication in acute middle-ear inflammation, and formulate the indications for mastoid operation.

The first pathological complication referred to is congestion of the antrum and of the mastoid cells. The presence of this condition, found almost invariably in all severe forms of otitis at the onset, is, as a rule, easily diagnosed by sensitiveness of the mastoid on pressure, and in very hyperæmic conditions even on touch.

The sensitiveness of the mastoid at the onset of an inflammation due to congestion is, however, no indication for operation of the mastoid. It is generally most amenable to treatment, and in most cases disappears under antiphlogistics, such as cold and leeching, or when the middle ear is relieved from its congestion, as by paracentesis. Sometimes the mastoid, in cases of noncomplicated middle-ear inflammation, may remain sensitive for some time, but the sensitiveness gradually lessens day by day, instead of increasing or remaining constant. I have seen, in cases of influenza otitis, sensitiveness of the mastoid persisting for several weeks, and the otitis heal without necessitating an operation. Both the character of the discharge and the absence of temperatures warranted expective treatment and with favorable results.

In severer cases of middle-ear inflammation, in which the mastoid congestion is replaced by actual inflammatory conditions of the bone, the sensitiveness of the mastoid does not disappear. Persistency of the sensitiveness becomes, therefore, an important cardinal symptom for the recognition of those forms of mastoid inflammation requiring operative interference. In these complications we usually find, besides sensitiveness of the mastoid, the skin over the mastoid reddened, the line of demarcation between the auricle and the mastoid indistinct, the auricle frequently standing off from the head to a greater or less degree, depending upon the amount of oedema present, and the auricle itself enlarged. These symptoms, more or less frequently present in pronounced cases of osteitis and periostitis, are obvious and important for the diagnosis of mastoid inflammation; we must not forget, of course, that some of the symptoms referred to also occur in severe forms of external otitis; as a rule, it will not be difficult to exclude these forms.

The oedema over the mastoid in furuncular affection and in cases of diffuse external otitis is, as a rule, not accompanied by sensitiveness. Although osteitis and periostitis very often occur together, not infrequently we find mastoid periostitis alone without involvement of the bone, so that the differential diagnosis between these conditions may become difficult. Fluctuation, of course, indicates the presence of a periosteal or cutaneous abscess. In those cases, however, where no pus has formed, a more



circumscribed swelling immediately behind the auricle, at the line of attachment, is usually found in mastoid periostitis, while a more diffuse, less bulging œdema over the mastoid speaks in favor of an osteitis.

In antral inflammation and antral empyema, the sensitiveness of the mastoid is likewise an important symptom, although it is not always present. Sometimes we find only certain points of selection painful on considerable pressure. A frequent point of sensitiveness is a depression immediately behind the auricle, over the upper portion of the mastoid, and slightly above the external auditory canal, a point corresponding to the position of the antrum. A second point of selection is the lateral surface of the mastoid process near the apex.

The otoscopic examination, the condition of the external canal, both in its membranous and osseous portion, the condition of the tympanum, the location of the perforation in cases of perforative otitis, the position and appearance of the drum membrane in nonperforative forms, the character of the discharge, the quantity of discharge, are all important symptoms in diagnosing mastoid complications and influencing our therapeutical procedures. In periostitis of the mastoid we shall frequently find the auditory canal in its entire length narrowed; in affections of the antrum, narrowing or bulging of the lateral wall of the osseous portion of the canal will in obscure cases aid us in our diagnosis. From the normal anatomical relation we shall not be surprised to find the upper wall, especially in its lateral portion, hyperæmic and depressed, so that a sinking of the roof of the osseous canal likewise forms a very important symptom, pointing to probable antral involvement. Of course it is hardly necessary to state that in all stenosed conditions of the canal, external or furuncular affections must be excluded.

The appearance of the tympanum is an important guide in the diagnosis of mastoid complication, and we commonly find a bulging of that part of the tympanum corresponding to Shrapnell's membrane accompanying the changes described in the posterior portion of the osseous canal. An important indication for hastening the operative interference, for instance, is an unfavorable location of the perforation interfering with proper drainage.

The character and quantity of the discharge must also be carefully considered. If, in the course of an acute otitis, the discharge becomes muco-purulent, and then finally purulent, becomes thick, of creamy consistence, and is at the same time very profuse, forming again no sooner than it is removed, showing no tendency to decrease or change its purulent character, even if there are only one or two other, perhaps obscure, symptoms present, or, if in the presence of such a discharge, the posterior portion of the usually reddened tympanum bulges, while the anterior portion appears retracted, we may almost with certainty diagnosticate antral empyema. The discharge is not always necessarily purulent. Fre-

quently the discharge may be very scant, more mucous in nature, forming thin flakes in the pus basin, and still undoubted mastoid disease requiring operative interference be present. Usually, however, in these cases other symptoms will help us to a conclusion, as in those cases we generally have conditions of mastoid osteitis or circumscribed abscess in the mastoid as the cause of the discharge. Why the discharge in these cases is not purulent may be easily understood by bearing in mind the pathology of mastoid involvements. A single drop of pus in a single cell, or even large granulations with considerable hyperæmia, may tend to keep up an inflammatory condition in the middle ear, producing desquamation and exudations from the mucous membranes. The discharge in these cases is not, as in the purulent form mentioned above, derived from the antrum, but from the adjacent portions of the tympanic cavity.

The temperatures occurring during the course of an otitis must be carefully watched, for in some cases, where the symptoms are not pronounced enough to warrant our operative interference, a sudden rise of temperature in the course of an otitis, or nightly exacerbations with normal or almost normal morning temperatures, constituting signs of retention, will sometimes render a diagnosis positive, and enable us to operate in time. As a rule, in ordinary uncomplicated middle-ear affections, where, when drainage is once established, resorption does not occur, the temperature runs a more regular course than in the complicated form. At the onset of middle-ear inflammation very high temperatures, or even resorption temperatures, may be present, but usually during the course of the otitis the temperature gradually diminishes. Sudden or steady rise of temperature, if not caused by closing of the perforation, for instance, in the course of an otitis, is a positive sign of resorption, and if accompanied, for instance, by copious discharge, an indication for immediate operative interference. As it is the object of this paper to formulate indications to operate before serious secondary complications ensue, it will only be necessary to mention briefly the symptoms pointing to such complications, as vertigo (which, by the by, occurs also in ordinary acute middle-ear affections), headaches, convulsions, chills, suggesting thrombosis or septic conditions, and all the symptomatology of brain complications and of involvements of the parts about the mastoid. In every otitis, especially if observed from the beginning, with the exception of those rare fulminating forms involving the whole ear and labyrinth, and producing death by direct extension from the labyrinth, and with the exception of the at times very severe forms of diphtheritic otitis, in which the exudation is of such a magnitude that a return to normal conditions is almost impossible even with operative interference—such cases excepted, or with cases of abnormal anatomical conditions, as openings on the roof of the antrum or tympanic cavity, we may say that secondary complications are due to neglect

to operate in time. There are, of course, a number of cases in which the symptomatology is so obscure that, without depending on experience in other observed cases, we are in doubt whether to operate or not. In doubtful cases, therefore, it is always advisable to operate even too early, instead of waiting until fatal complications render an operation futile. In obscure cases, therefore, where a positive diagnosis is impossible, the indication is to operate, not to delay. The mastoid operation is harmless; delay may be fatal.

We may formulate our indications as follows:

The presence of hyperemia and congestion alone is no indication for opening the mastoid.

The mastoid should be opened in all cases of diagnosed osteitis if under the usual antiphlogistic treatment the inflammation shows no tendency to resolution.

In pronounced cases of antral empyema in which the character of the discharge is purulent and the empyema shows no tendency to discharge completely through the middle ear.

In all cases of protracted otitis with profuse otorrhœa which show no tendency to resolve within a reasonable period, the time chosen for operation depending upon the manifest symptoms, whether, for instance, retention is present or the mastoid bone itself is involved.

In every case of acute otitis in which there are dangerous symptoms of resorption, and in which the drainage can not be established by paracentesis or by the natural perforation. In those cases, even without manifest symptoms of mastoid affection, the mastoid should be opened, in order to produce a more favorable drainage and enable a thorough cleansing of the middle ear.

In all cases of muco-purulent otitis in which the otitis is evidently maintained by mastoid involvement, the time for operation depending upon the condition of the patient and the presence or absence of symptoms pointing to retention or other complications of a serious nature.

In cases of mastoid disease, or otitis complicated by lymphangitis or lymphadenitis, in which there is an imminent danger of the formation of abscess, and in those cases in which the lymphadenitis does not tend to resolve under ordinary antiphlogistic treatment.

In cases of protracted otitis in which there are symptoms of serious secondary complications, involving danger of extension of the inflammation inward toward the brain, or downward toward the neck.

In cases of acute otitis in which complicating stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

NO. 38 EAST SIXTIETH STREET.

**The Medical Standard.**—Dr. James G. Kiernan, of Chicago, has severed his connection with the *Standard* after an editorial service of nearly ten years.

## A REPORT OF THE ACTION OF ANHALONIUM LEWINII (MESCULE BUTTON).

By D. A. RICHARDSON, M. D.,  
DENVER, CO.

On the 15th of October, 1895, Mr. —, of this city, consulted me regarding repeated attacks of occipital and frontal cephalalgias, from which he suffered great pain and inconvenience. He is a solidly built gentleman, fifty years of age, and during the years 1887 and 1888 underwent, at the hands of an incompetent man in a neighboring State, a severe course of treatment for trachoma of the lids of both eyes, by which the cornea of the right eye was severely eroded and some opacity brought about. The resulting scars may be seen on the cornea at this date. His habits are correct in every way. He is well fed, a total abstainer from liquor and tobacco, and the father of a healthy family. His business up to this time has been that of a dairyman, and he is a large, strong, and well-nourished man. His weight to-day is one hundred and eighty pounds.

Thinking an error of refraction or eyestrain might be the cause of these neuralgias, I placed him in the hands of an able ophthalmologist of this city, who carefully examined his eyes, and stated positively that the neuralgias were not due to eyestrain or refraction, but might perhaps be influenced favorably by the use of proper prisms or lenses. After a careful and prolonged trial of these instruments, my patient visited me at my office on December 25th, still complaining of severe cephalalgia. I treated his stomach expectantly, and examined its contents, finding no cause for his trouble there, and gave him various prescriptions, which did him no good. On January 25, 1896, his neuralgia became general, and I was careful to make a differential diagnosis between neuralgia and acute rheumatism, the diagnosis of neuralgia being thoroughly and unquestionably established.

About this time I had been studying the accounts of anhalonium Lewinii, as sent out through the channels of Messrs. Parke, Davis, and Co., and from therapeutic indications, as especially enumerated in an article in the *Therapeutic Gazette*, which bore some similarity to indications exhibited by the train of symptoms in this patient, I at once determined, with his consent, to make a practical test of this drug in his case. Consent being given me by him, I proceeded (after vainly seeking in the stores for the drug) to procure from the laboratories of Parke, Davis, and Co. a sample of the tincture of anhalonium. These gentlemen promptly forwarded me an ounce of the tincture, and I at once notified the patient of its arrival, and immediately exposed him to its action.

The patient was given four drops of the tincture every night on retiring, and this dose was not increased. On the evening of the fourth day the neuralgia had left him, being replaced by a peculiar prickling sensation over the surface of the body, but exaggerated in the fingers and toes, and also on the soles of the feet. This sensation lasted but a short time, was unaccompanied by any rise of the temperature of the body or change in the character or rate of the pulse; neither was it especially a source of discomfort to the patient, but quite otherwise. After one week this sensation was experienced for an hour or two after taking the drug, but soon

ceased and disappeared altogether in the third week. At this time he suffered a very short but severe attack of frontal cephalalgia, which he endured for about eighteen hours, and for exactly two months since he has been totally free from neuralgia. Up to the time of this last attack, this sensation was virtually the only positive action experienced from the drug, but since that time the excretion of urine has been somewhat excessive. Especially would I remark on the clearing of the skin of pimples over the chest and back, and a marked softening of the hair, which before the exhibition of the anhalonium was dry, with a tendency to break easily.

These last symptoms, I think, fully justify the placing of this drug in the class of neurotics, as only by in some way acting on the nervous system could it remove acne vulgaris from the skin. The skin remained moist, but at no time was it bathed in perspiration; and the abnormal oiliness of this organ, which had persisted all along, was greatly improved or restored to a normal condition.

April 23, 1896, the patient and myself together visited the oculist to whom I had previously sent him, and in going over the history of the case, when that point was reached in the history of the action of the anhalonium where a large amount of urine was eliminated from the body, the doctor evinced much interest, and mentioned the probability of this drug being perhaps an especially fine solvent of uric acid. If it shall be shown that anhalonium is a solvent of uric acid from the blood, it will be one of the richest discoveries of organic medicine; for we have in this drug something which, given in continued doses of but four drops daily, will, without the slightest inconvenience to the patient or danger from poisoning, and without appreciable loss or disturbance of the metabolism of the body, cause to be eliminated from the body daily several pints of urine. I regret exceedingly the lack of a case of indubitable rheumatism or gout in which to test the action of this drug.

In Brochure No. 4, page 38, the writer mentions a varied dosage. This drug is not so poisonous as would be feared from what has been written of it, and, in the face of what has been recently written regarding the dosage of veratrum viride, one need not fear to start in with a dose of four drops in a well-nourished patient, and continue its administration daily for a long period. Like nitroglycerin, it will steady the pulse, and, in a case of cardiac dyspnoea, one drop of the tincture rapidly removed all trace of purring thrill, or *frémissement cataire*, of Laennec. This attack was due to the patient coming suddenly to this elevation above sea-level, and was not due to any organic lesion of the heart.

In my opinion, anhalonium is a superior cardiac tonic, and, like nitroglycerin, its effects are prolonged after the administration of the drug is withdrawn. After continuously taking the drug daily for two months, no symptoms of its being a sedative or hypnotic have developed. The patient during the last month has lived at an altitude of nine thousand feet, and has worked hard and lost some flesh thereby. As an adjuvant to

digitalis it might be of value, provided sufficient digitalis be given with it to produce diuresis by the skin, for the anhalonium acts well on the kidneys without anything in combination.

There has for a long time been in use a combination of phenacetine, cannabis indica, caffeine, and camphor monobromide as a succedaneum for morphine. Anhalonium in certain cases will supplant such formulae, and thus avoid the depression of the heart caused by the use of coal-tar derivatives. It is for this reason that I wish to again mention that, if it shall prove to be a solvent of uric acid, it will be of the greatest service, as the heart will be sustained by it at the same time the dangerous element is being removed from the body.

## Therapeutical Notes.

**The Treatment of Pernicious Malarial Fever.**—Dr. Klein, a physician practising in Syria, says the *Therapeutische Wochenschrift* for July 12th, recommends the following solution for subcutaneous use:

R Quinine hydrobromide.....	30 grains;
Sulphuric ether.....	180 "
Alcohol, enough to make.....	1 fl. oz.

M. A Pravaz's syringe will hold enough of this solution to contain a grain and a half of the quinine salt, and as much as ten syringe-fuls may be injected in the course of twenty-four hours. At the same time the following is prescribed for internal use:

R Camphor.....	15 grains;
Syrup of ether.....	600 "
Cognac.....	900 "
Syrup of orange peel.....	450 "
Distilled water.....	1,050 "

M. Dose, a teaspoonful.

After the paroxysm has subsided this mixture may be given:

R Quinine hydrochloride.....	60 grains;
Extract of cinchona.....	30 "
Cognac.....	1,200 "
Syrup.....	900 "
Distilled water.....	1,500 "

M. A few tablespoonfuls to be taken daily.

**Irritability of the Bladder after Delivery.**—In his new *Manual of Midwifery*, just published by the Macmillan Company, Mr. W. E. Fothergill, of Edinburgh, says that the following mixture is very useful in cases of post-partum irritability of the bladder:

R Salol.....	} of each, 2 drachms;
Tincture of hyoscyamus.....	
Infusion of buchu, enough to make 6 fluid ounces.	
M. S.: A tablespoonful three times a day.	

**The Treatment of Flatulence.**—The *Province médicale* for July 18th remarks that when the stomach is very much distended by gas in consequence of defective muscular power, the following procedure, which was recommended by Robin, should be resorted to: Open the oesophagus by drawing in some air, and at the same time lower and raise the head several times; when the opening is obtained the gas escapes without pain. This per-



formance should be practised before the gastric tension has become too great.

**Eucaine and Cocaine.**—In the *Therapeutische Monatshefte*, according to a summary in the *Wiener medizinische Blätter* for July 23d, the suggestion is made, in consequence of the burning occasionally caused by instilling a two-per-cent. solution into the eye, that Berger's plan be followed, that of instilling first a drop of a one-per-cent. solution and then, after two or three minutes, a drop of a two-per-cent. solution. Berger, it is added, uses eucaine and cocaine together in the following solution:

R Eucaine hydrochloride, } of each 3 grains;  
Cocaine hydrochloride, }  
Distilled water..... 300 "

M. The exsanguinating action of the cocaine, often undesirable, is thus avoided, and its action on the pupil and the accommodation is diminished one half.

**The Coryza of the Newborn.**—The *Indépendance médicale* gives the following formula:

R Menthol..... 1 part;  
Boric acid..... 100 parts;  
Vaseline..... 1,000 "

M. S.: Insert a portion as big as a pea into the nostril three times a day. At the end of three days, insufflate a pinch of the following powder into each nostril:

R Tale, } of each..... 75 grains;  
Boric acid, }  
Salol..... 38 "

M.

**Pruritus of the Vulva.**—In cases that are not parasitic, says the *Indépendance médicale*, M. Mussy advises the following applications:

R Finely powdered starch..... 300 grains;  
Bismuth subnitrate, } of each... 15 "  
Potassium bromide, }  
Calomel..... 8 "  
Powdered belladonna..... 3 "

M. To be applied twice a day. It is said to give almost instant relief.

When the itching affects the inner surface of the mucous membrane, it is preferable to prescribe the following:

R Infusion of mallow flowers..... 1 quart;  
Cherry-laurel water..... 750 grains;  
Borax..... 150 "

M. To be used as an injection twice a day. After each injection, the parts are to be smeared with an ointment of one part of chloroform to ten parts of vaseline.

Bernheim (*Vienna Clinical Formulary*; *ibid.*) prefers cocaine to chloroform, and gives the following formula:

(1) R Emollient ointment..... 100 parts;  
Cocaine hydrochloride..... 1 part.

M.

(2) R Pure carbolic acid..... 1 part;  
Water..... 20 parts.

M. S.: To be painted on.

**The Insomnia of Neurasthenia.**—Mouin (*Indépendance méd.*, July 1st) says the following draught is well borne for a long time:

R Paraldehyde..... 38 grains;  
Fluid extract of piscidia..... 75 "  
Syrup of cherry-laurel..... 750 "

M. S.: The whole to be taken at once in a cup of orange-flower water.

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### A SURVIVAL OF SAVAGE CREDULITY.

DR. DAN MILLIKEN, of Hamilton, Ohio, is evidently a man of comprehensive knowledge, close reasoning, rare humor, and remarkable power of expression. This we infer from a perusal of his presidential address, entitled *A Study in Credulity*, delivered before the Ohio State Medical Society at its last annual meeting. He opened with a reference to the universal tendency of savages—a tendency shared by children and degenerates—to superstition, and particularly to the superstition of regarding disease as an evil spirit, something to be enticed or driven out of the body; and he proceeded to show that a conviction akin to that superstition had dominated the humoral pathology, still survived among the laity, and even now was not altogether conquered by physicians, so that it took a man of strong mind to stand out and not finally be influenced by the notions of the people among whom he was at work. This thought, he says, often comes to him when he hears a patient speak of his disease as "it." "We often hear," he adds, "that 'it' *struck in*, with the most serious results. I have been called out of bed to see a patient who was awakened with a numbness of the toe, and straightway sent for his brother, his doctor, and his priest, lest 'it' should creep up to some vital organ and send him to the realm of shades in shameful informality. And very recently I saw a poor creature with a slowly failing heart and swelling legs who with the tincture of iodine had painted a garter about her leg in the vague hope that this might prevent 'it' from crawling up to drown her."

It was on some such notion, he thinks, that the old practice of bleeding, salivating, and giving repeated purges and emetics was founded. Up to very recent years, he says, intolerable drugs were put into the body "with a more or less definite idea of making it untenable to any other spirit than the owner, and the practice was carried so far that it was oftentimes a very nice question whether the landlord of this house of clay—the Ego himself—had not better move out and find quieter quarters." The notion of exorcising dis-

ease, Dr. Milliken imagines, has infected the surgeon, who "carries his voodoo in a dredging-box and calls it iodoform." "He doesn't precisely say that it is a lucky thing to use, though that is in his heart of hearts." "Press your surgeon hard enough, and he will tell you that iodoform slowly gives off iodine in the wound or on its edges, but he will not tell you why it is better than other substances which do the like, nor will he impart to you a reason why he does not use iodine itself in known quantity."

After picturing the humoral pathology as "only a higher form of personification of the morbid principle," which "substituted a vague and shadowy entity for the half-corporeal demon which had haunted pathology for so many centuries," Dr. Milliken says: "We do much better now. We have a pathology of the zymotic diseases which is harmonious and strictly scientific and conformable to the true spirit of induction. But it falls in my way to say, to-day, that it is not at all to the credit of our craft that the old credulity breaks out anew with every announcement of progress in bacteriology; greedy, gulping acceptance of principles, unproved and half-proved, in bacteriology is the disgrace of the day; most of us have been obliged to change front three times on the bacteriology of diphtheria, and it is certain as death and taxes that we shall play the jumping-jack through future years if we do not, after the manner of scientific men, receive valuable hypothesis as hypothesis."

Proprietary preparations, Dr. Milliken declares, "do not differ in any regard from the patent medicines which are swallowed in such quantity by the laity to feed the inextinguishable laughter of the doctors." "It is not in order," he adds, "for you or me to sneer at the girl who buys love-powders in the kitchen or madam who buys subscription books in the parlor, if we, snickering in the office, are seduced by the drummer's smooth tongue into the purchase and use of secret remedies. . . . I am told that the formula is on each bottle. The formula, indeed! The Egyptian sphinx has a very open countenance, yet the ages have not wrested her secret from her. . . . The formula on each bottle! Spare us such formulas in the kitchen, for if the cook has only the names of her ingredients hinted to her, 'combined with aromatics,' she will never be able to concretely realize the theoretic difference between pudding and bread or between plain omelet and baked custard, and the only certainties she will deal out to us will be dyspepsia and consuming wrath.

. . . There are superstitions in medicine to be sloughed; there are noble certainties to be attained. Throw away your samples and practise medicine!"

But it is not Dr. Milliken's opinion that, judged as a whole, the medical profession is credulous; its genius, he does not doubt, will meet and neutralize the evil tendency to credulity, for "it has ever been the proud boast of the doctor that he has dissipated doubt and superstition and has gone far beyond the bounds of his art to bring certainty and scientific apprehension to the world."

#### POTASSIUM IODIDE IN THE TREATMENT OF GALLSTONE COLIC.

In the *Therapeutische Wochenschrift* for July 19th Dr. Dunin states that for the last four years he has used potassium iodide in the treatment of gallstone colic with great satisfaction. He was led to this practice by having chanced to prescribe the drug for two women who, as he supposed, had syphilitic gummata of the liver. The results were very gratifying, but in two months one of the women, in whom the existence of syphilis had only been inferred, and on very slim data, returned for further treatment, and this time there could be no mistake in the diagnosis; she had gallstone colic and increasing jaundice.

Since then, Dr. Dunin has prescribed potassium iodide in all his cases of gallstone disease, about a hundred in number. He finds that it answers best in cases characterized by the frequency rather than by the severity of the attacks—cases in which the patients are worn down in general health by loss of sleep, impaired appetite, and the effects of narcotics taken for the relief of pain. Under the influence of the remedy the patients begin to feel better in a very few days, and in three or four weeks they consider themselves cured. In some of these cases the gall bladder actually ceases to be palpable, but in others, although the pains may have wholly subsided, the organ remains enlarged and manifestly contains stones.

In many instances Dr. Dunin has observed better results from the administration of potassium iodide than even from the drinking of Carlsbad water. Some of his patients who had taken the Carlsbad course without stopping the attacks have found relief in the use of the iodide, and in others whose attacks had been subdued by it the Carlsbad water actually seemed to bring them on again. Still, he thinks the best way to get the upper hand of the disease for good is by alternately

taking the iodide and the Carlsbad waters. His usual practice is to keep the patient on the use of the iodide for four or five weeks and then have him take the waters. He gives from five to ten grains of the potassium salt twice a day. He is doubtful whether it acts by facilitating the solution of the stones in the bile or by relaxing the biliary passages and so favoring their expulsion into the intestinal canal.

### MINOR PARAGRAPHS.

#### THE OFFICE OF CORONER IN NEW YORK.

The physicians of New York are for the most part of the opinion that there is nothing to do with the office of coroner but to abolish it, but it is satisfactory to learn that the coroners themselves, some of them at least, seem to have become aware of the fact that their office needs reforming. To that end, a conference between some of the coroners and an invited party of physicians was held in the coroners' office on Tuesday evening. Professor Withaus is reported to have said at that conference that for fifty years the office had not furnished evidence that had led to the conviction of anybody for murder by poisoning.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 4, 1896:

DISEASES.	Week ending July 28.		Week ending Aug. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	17	7	17	8
Scarlet fever.....	44	3	35	5
Cerebro-spinal meningitis....	7	6	0	0
.....	105	7	110	7
Diphtheria.....	192	23	146	18
Tuberculosis.....	139	105	183	103

**The Late Surgeon Fessenden, of the Marine-Hospital Service.**—Surgeon-General Wyman has issued the following circular letter, dated July 31st:

*To the Medical Officers of the United States Marine-Hospital Service:*

It is with regret that I have to announce to the medical officers of the service the death, on the 23d instant, from a complication of heart and kidney affections, of Surgeon Charles Stewart Davis Fessenden. Surgeon Fessenden was the senior surgeon of the corps, having served since April 4, 1861—a period of more than thirty-five years. He was born in Portland, Maine, on February 23, 1828, and was of a family noted in the annals of his native State and the nation. His father, General Samuel Fessenden, was for many years a leader at the bar of Maine, and his eldest brother, William Pitt Fessenden, was the distinguished senator of that State, and during the administration of President Lincoln became secretary of the treasury. Two nephews of Surgeon Fessenden rose to the rank of brigadier general during the civil war, and others have been prominent in private life, two of them in the profession of medicine.

Surgeon Fessenden was fitted for college at the Portland Academy, and in 1844 entered Harvard University, where he pursued his studies for a year; leaving Harvard, he became a student at Bowdoin College, from whence he was graduated in 1848.

He studied medicine under Charles W. Thomas, M. D.,

of Portland, Maine, and attending medical lectures at the Medical School of Maine and also in New York, and was graduated in 1851 from the Medical School of Maine. From 1853 to 1856 he was physician in charge of the Portland City Hospital, after which date he became a private practitioner until his appointment as surgeon in the Marine-Hospital Service, in 1864.

During the period of his membership in the corps, he served as commanding officer at the ports of Portland, New York, St. Louis, Norfolk, Louisville, and Mobile. During this period he was also a member of three boards of medical officers convened for the examination of applicants for the service and of eight boards convened for the physical examination of candidates for admission to the Revenue Cutter Service, besides serving on various special details as inspector.

On account of the failure of his health in the fall of 1895, he was ordered to appear before a board of medical officers for physical examination, and in accordance with the report of the board was placed on waiting orders on November 22, 1895.

During the few months which intervened between this date and his demise Surgeon Fessenden resided at Salem, Massachusetts, at which place his death occurred.

**Lithiopiperazine.**—According to the *Wiener medizinische Blätter* for July 16th, this new proprietary compound has been found to be efficacious in cases of gout and urinary lithiasis in which simple piperazine had failed. It is made by Dr. L. C. Marquart, of Beuel, and is in the form of a soluble granular powder or in tablets of fifteen grains each, of which from one to three are to be taken daily.

**Guaiacol in the Treatment of Swelled Testicle.**—Dr. Tavitani (*Médecine moderne*, March 18, 1896; *Indian Lancet*, June 16, 1896) applies guaiacol, either pure in amounts of from thirty to forty-five grains or in the form of this ointment:

R Guaiacol..... 5 parts;  
Vaseline..... 30 "  
M. In mild cases, three or four applications suffice.

**Excessive Sweating of the Feet**, according to the *Therapeutische Wochenschrift*, may be treated to advantage by dusting the following powder into the socks:

R Alumnol, of each..... 4 parts;  
Aristol.....  
Starch..... 15 "

M.

**Creosote in the Treatment of Pulmonary Tuberculosis.**—Gilbert, says the *Therapeutische Wochenschrift* for July 5th, recommends the following mixture for subcutaneous injection:

R Creosote..... 375 grains;  
Camphor..... 225 "  
Aristol..... 150 "  
Eucalyptol..... 450 "  
Sterilized neat's-foot oil, enough to make..... 8 fl. ounces.

M.

Each cubic centimetre of this solution contains a grain and a half of creosote, six tenths of a grain of aristol, and three quarters of a grain of eucalyptol.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 19 to August 1, 1896:*

BUSHNELL, GEORGE E., Captain and Assistant Surgeon. The extension of leave of absence granted him is further extended one month.

CLENDENIN, PAUL, Captain and Assistant Surgeon, is granted leave of absence for one month.

MEARNS, EDGAR A., Captain and Assistant Surgeon, is granted leave of absence for three months, to take effect on or about August 3d.

WARE, ISAAC P., First Lieutenant and Assistant Surgeon, is granted leave of absence for three months, on surgeon's certificate of disability.

BUSHNELL, GEORGE E., Captain and Assistant Surgeon, is relieved from duty at Fort Hamilton, New York, to



take effect upon the expiration of his present leave of absence, and ordered to Fort Assiniboine, Montana, for duty at that station, relieving EGAN, PETER R., Captain and Assistant Surgeon. Captain Egan, upon being thus relieved, is ordered to Fort Hamilton, New York, for duty.

MCELDERRY, HENRY, Major and Surgeon, is granted leave of absence for one month, to take effect on or about August 5th.

WORTHINGTON, JAMES C., Major and Surgeon. The leave of absence granted him on account of sickness is further extended one month.

**Naval Intelligence.**—*Changes in the Medical Corps of the United States Navy for the Week ending July 25, 1896:*

COOK, F. C., Assistant Surgeon. Detached from treatment at the New York Hospital and ordered to proceed home.

COOK, G. H., Medical Director. Detached from special duty at Philadelphia and ordered to take charge of the hospital there.

FARWELL, W. G., Medical Inspector. Ordered to special duty at Philadelphia attending officers.

KINDLEBERGER, D., Medical Director. Detached from duty in charge of the hospital at Philadelphia and ordered home to await orders.

MORRIS, L., Assistant Surgeon. Detached from Indian Head Proving Ground, ordered home, and granted leave of absence for one month.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Sixteen Days ending July 31, 1896:*

CARTER, H. R., Surgeon. Directed to inspect Marine-Hospital Service at Tampa, Fla. July 28, 1896.

PECKHAM, C. T., Passed Assistant Surgeon. Directed to report to Surgeon Godfrey, chairman of board for physical examination. July 24, 1896.

BROWN, B. W., Passed Assistant Surgeon. Granted leave of absence for six days. July 23, 1896.

STEWART, W. J. S., Passed Assistant Surgeon. Granted leave of absence for four days. July 17, 1896.

DECKER, C. E., Assistant Surgeon. To proceed from Battle Creek, Mich., to St. Louis, Mo., for duty. July 21, 1896.

PROCHAZKA, EMIL, Assistant Surgeon. Granted leave of absence for twenty days. July 23, 1896.

#### Board Convened.

Board convened to meet at Port Townsend, Wash., for the physical examination of PECKHAM, C. T., Passed Assistant Surgeon. GODFREY, JOHN, Surgeon, chairman; STIMPSON, W. G., recorder. July 24, 1896.

#### Promotion.

BANKS, C. E., Passed Assistant Surgeon. Commissioned as Surgeon. July 27, 1896.

#### Death.

FESSENDEN, C. S. D., Surgeon, died at Salem, Mass., July 23, 1896.

#### Society Meetings for the Coming Week:

MONDAY, August 10th: Gynecological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, August 11th: Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioner's Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, August 12th: New Mexico Medical Society (Socorro); Medical Societies of the Counties of Albany and Allegany (quarterly), N. Y.

THURSDAY, August 13th: Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private).

FRIDAY, August 14th: Cleveland Medical Society; Medical Society of the Town of Saugerties, N. Y.

## Births, Marriages, and Deaths.

### Married.

CLARK—HENDERSON.—In Deasonville, Mississippi, on Thursday, July 30th, Mr. Charles Clark and Miss Mamie Henderson, daughter of Dr. C. R. Henderson.

### Died.

BOATNER.—In Victoria, Texas, on Thursday, July 30th, Dr. E. S. Boatner.

EMERSON.—In Milford, Pennsylvania, on Monday, August 3d, Dr. Vincent Emerson, in the seventy-fourth year of his age.

POTTER.—In Newburgh, N. Y., on Monday, August 3d, Dr. Franklin W. Potter, in the sixty-second year of his age.

SWIFT.—In New York, on Wednesday, July 29th, Dr. Samuel Swift, of Yonkers, N. Y.

## Letters to the Editor.

### REFLEX EPILEPSY.

60 WEST FIFTIETH STREET, NEW YORK, August 1, 1896.

To the Editor of the *New York Medical Journal*:

SIR: Dr. Ranney's letter on reflex epilepsy in your issue of July 18th contains no answer to my queries of July 4th. He does not produce the cases of epilepsy cured by eye treatment, nor does he name any of the "hundreds of medical men of repute" whose credibility, honesty, and skill I was supposed to have called in question.

My critic intimates that he has cases of cure recorded in his books, but not yet reported. Does any one believe that the doctor would fail to rush into print at once with the report of a cure if he had one recorded in his books? Why such concealment of cures, when he has already reported so many failures?

In his first letter (June 20th) he asks if I am "familiar with the later methods of investigating defects in adjustment of eye muscles," and in this last he asks "How many of the clinical cases of Dr. Peterson or those observed by others whom he mentions were ever subjected to eye treatment in the hands of any oculist with a large experience in the treatment of heterophoria?"

If the doctor had known how dangerous these questions are, he would certainly have remained silent. Does he know how many patients with incurable epilepsy are now under treatment by neurologists who had previously undergone treatment by himself and other oculists in the hope of a cure? What does he suppose has become of the patients on whom he has committed a thousand tenotomies? What does he suppose has become of the innumerable patients on whom those who think as he does have operated?

The fact is that the claims of Dr. Ranney regarding

the efficacy of eye treatment are not and will not be substantiated.

Let me call his attention to an article in the *New York Medical Journal* for July 2, 1892, on "The Radical Cure of Epilepsy and Other Neuroses," by "Dr. R. U. Greenough," by a new method known as "testicular and mammary equilibration." It seems that this author and Dr. Smith cure cases of epilepsy and other neuroses by equilibrating the testicles in males and the mammary glands in females. In eighty-seven cases of chronic epilepsy there were fifty per cent. of cures and 49.9 per cent. of amelioration, the latter being organic cases.

The principles of this new treatment are as follows:

In normal conditions the left testicle is more dependent than the right, which is explained by the necessities of corporeal equilibrium. The right side of the body being larger and stronger than the left, there is a tendency to compensation for such inequalities, and the normal somatic equilibrium is maintained by the greater pendency of the left testicle in the male and the left mammary gland in the female. Dr. Smith had observed in certain nervous diseases that there was hyperpendency of the right testicle or mammary gland, and indeed that there were several insufficiencies in equilibration that by proper treatment resulted in the cure of serious nervous diseases, such as epilepsy, insanity, chorea, and the like. These physicians designated such conditions generically as heterophoria, testicular or mammary as the case might be, and described varieties, such as hypophoria, hyperphoria, esophoria, and exophoria. The correction of these insufficiencies sometimes required the use of simple devices, such as adhesive plaster, suspensory bandages, and so forth, but operations were occasionally needed, such as excision of the skin in the supramammary or inframammary region, or of a portion of the scrotum. Sometimes rather more severe operations were undertaken. The reader is referred to the original for further details.

Now, were I to attack the stand taken by "Greenough" and Smith, were I to call their theories absurd, their deductions ridiculous, their statements unsubstantiated by facts, their whole position unsound and unscientific, they would need but to quote Dr. Ranney's letters in full with the mere substitution of a few nouns and names in order to occupy the same relative position as does he in regard to scientific neurology.

The reiteration and repetition of untenable theses and animadversions against a critic are not answers to criticism.

Give us incontrovertible facts!

FREDERICK PETERSON.

#### MEDICAL EDUCATION IN ILLINOIS.

Chicago, August 2, 1896.

To the Editor of the *New York Medical Journal*:

SIR: Audiatur et altera pars. In the *New York Medical Journal* for July 25th, in an article entitled "Medical Education in Illinois," Dr. Julius Grinker, of Chicago, condemns the existence and action of some of the medical colleges in Chicago in a very drastic manner.

Undoubtedly the author rises with perfect right against so-called "manufactories of doctors," but he is evidently partial in regard to the so-called night schools of medicine. We have day colleges as well which are nothing else than manufactories of doctors. Naturally, this evil should be combated with word and act. However, we should be just and impartial.

Harvey night school is not known to me. But, knowing the Harvard Night School of Medicine, I emphatically object to Dr. J. Grinker's argumentations, and maintain that the author was biased in his condemnation of the above-mentioned institution.

Does the author know this institution personally? Did he ever listen to the original and genial Dr. W. T. Eckley's lectures on anatomy, the scientific and scrupulous work of Louisa Martin, M. D., professor of pathology, the excellent and thorough work of our bacteriologist and chemist, Professor H. Wightman? Did he ever see the skillful work in surgery (capital as well) of the venerable A. H. Tagert, professor of clinical surgery, and in fact of the whole faculty, which is not a collection of madcaps or swindlers, but is composed of excellent men of high professional standing who know and control their subject perfectly, and who work conscientiously and honestly? Did the author ever come in close contact with those students whom he so sarcastically designates as clerks and stockyards people, slaughtering cattle; who enthusiastically and with earnest devotion take advantage of this plan of education and listen to the lectures, work, and study, and indeed deserve the greatest praise, the more so because, after a hard day's work, they do not hesitate to make the best of their leisure hours in acquiring knowledge for useful work, instead of wasting their time in saloons and gambling houses, detrimental to their health, pocket, and mind?

Among the students of Harvard Medical College are many professional men of good education—lawyers, pharmacists, etc.—whose financial condition as well as professional work do not allow them to attend a day college, but who nevertheless are anxious to enrich their knowledge to benefit themselves and others.

The undersigned is one of them. Being in a profession which is as remunerative as the medical, it is not of consequence to me to earn my livelihood with the help of a doctor's diploma. Being a druggist for twenty-one years, I took a liking to my profession and to related sciences. Having no opportunity to attend day lectures, I matriculated in a night school. I study and work with enthusiasm, and am sufficiently intelligent to understand that any lack in lectures I am obliged to make up at home with the aid of books and manuals; and I assure the author of Medical Education in Illinois that after graduating I shall make a better physician than many graduates of the Rush, P. & S., and other medical colleges who have none, or a very poor idea of pharmacology, incompatibility of drugs, etc., and who protect manufacturers of proprietary articles with real harm to their patients.

Furthermore, I believe that in schools where there are only a hundred students the individual gets a better advantage of lectures and more practical direct information than in the large, renowned colleges with an enrollment of from six hundred to a thousand students. Besides, a big firm can not make any more out of a stupid and lazy fellow than a small and modest one, while an industrious man, who is impressed with the importance of his future task, certainly will work scrupulously equally at home and at school to obtain the necessary education.

I do not wish it understood that I am an adherent of the existing system or an antagonist of reasonable reform. I considered it my duty to defend an institution which I know well, and which Dr. J. Grinker attempts to rob of the right of existence and competency.

I consider it advisable that every student of medicine



before matriculation should pass an examination before a State examining board, and that one law should bind every one; but I oppose any plan of taking away the opportunity to study from persons who can not afford to give up their work until they are able to establish themselves in a new vocation—such plans being dictated by prejudice or false judgment.

ADAM SZWAKART, Ph. G.

## Proceedings of Societies.

### AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in Philadelphia, on Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896.*

The President, Dr. F. X. DERCUM, of Philadelphia, in the Chair.

**The President's Address.**—The president delivered an address entitled *The Functions of the Neuron*. He dwelt at great length upon the various views advanced by Nansen and quoted several abstracts from this well-known author's work. Speaking of naked axis cylinders, Dr. Dercum stated that they were in all likelihood a physiological impossibility in the cerebrum, for were they numerous we could suppose nothing but a constant overflow of stimuli from one cell to another and consequent inco-ordination, not only of thought, but also of action. This was the view advanced by Nansen. The speaker stated that the question had arisen in his mind as to whether the neuron was not an absolutely fixed morphological element, and whether it did not possess a certain though perhaps limited power of movement. He said he realized the practical value and the wide application of this idea, and had examined the literature to see whether a similar interpretation of nervous phenomena had occurred to others, and to gather such facts, if any could be brought forward in its support. He found that this thought had occurred independently to three observers, one in Germany and two in France. Ramon Cajal, however, opposed the theory of the mobility of the neuron, and maintained, on the other hand, that the neuroglia cells possessed a great deal of mobility. He pointed out, for instance, that the neuroglia cells of the cortex were at times stellate and at others much elongated. Their processes had numerous short arborescent and plumed collaterals. Two phases could be observed in them: first, a state of contraction, in which the cell body became augmented while the processes were shortened and the secondary branches disappeared, and, secondly, a state of relaxation during which the processes of the neuroglia cells were again elongated. Ramon Cajal further maintained that the processes of the neuroglia cells in reality represented an insulating or non-conducting material, and that during the period of relaxation they penetrated between the arborizations of the nerve cells and their protoplasmic processes and rendered the passage of nerve currents difficult or impossible. On the other hand, when the processes of neuroglia cells were retracted, the various nerve-cell processes which they had before separated from each other were permitted to come into contact. It seemed as if Ramon Cajal admitted the very thing against which he contended.

Turning our attention for the moment to the subject of hysteria, we should see what a flood of light might be cast upon this hitherto obscure and mysterious subject. Take the simple example of an hysterical paralysis and see how easily it might be explained. The neurons of a certain area of the cortex, for instance, retracted the terminal branches of the neuraxon to such an extent that the latter were no longer in contact or sufficiently near to the neurons in the spinal cord which supplied the muscles of the paralyzed parts. When power was suddenly re-established in hysterically palsied limbs, it simply meant that the terminal branches of the cortical neuraxon, previously contracted, were again extended so as to re-establish the proper relations with the spinal neurons. It would be interesting to follow out the ideas here brought forward in their application to the various phenomena presented by hysteria.

Turning to hypnotism, we could see what a ready explanation it afforded of the phenomena presented, and, leaving this field entirely, we could see of what enormous value this interpretation of cortical action was for normal mental phenomena, taking, for example, the familiar instance of sleep. Numerous other ideas also suggested themselves in relation with the view here advanced.

### Acute Non-suppurative Hæmorrhagic Encephalitis.—

Dr. J. J. PUTNAM, of Boston, read a paper with this title, and gave a sketch of the literature of the disease, which had been mainly contributed by the German writers, the latest of whom was Oppenheim, of Berlin. The principal symptom groups were: 1. That described by Wernicke as due to hæmorrhagic softening mainly confined to the neighborhood of the third ventricle. 2. That described by Strümpell and others as attending more diffuse lesions of the hemispheres. 3. It was possible that the hemiplegia of children might be due to a similar lesion involving the cortex, as Strümpell had formerly suggested, and certain acute spinal lesions might belong in a similar category. Oppenheim had reported a number of cases showing that, however grave the symptoms of this disease might be, the outcome might be favorable. Dr. Putnam related the case of a young boy who had been attacked suddenly, two weeks after having been ill with the mumps, with paralysis of motion of both eyes and lids. Deafness, coma, impairment of swallowing, right hemiparesis, and double optic neuritis had been present. At the end of three months, however, he had recovered, although there was slight double vision, with a little impairment of hearing and eyesight, and ever since the illness he had been subject to epileptoid attacks of short duration. These attacks were gradually becoming less frequent. Reference was also made to another case which had been reported by the speaker in 1892, in which, besides other serious cerebral symptoms, including double optic neuritis, temporary loss of hearing had also occurred. The cases reported by Oppenheim were given in outline, and the interesting fact was noted that his patients, like the one he referred to, had been mainly children. An analysis of these reported cases was also presented.

Dr. L. C. GRAY, of New York, asked if in any of these cases there had been retraction of the neck.

Dr. PUTNAM stated that he was not certain as to its presence in his own cases, but it had been present in the other reported cases.

Dr. GRAY thought that the best macroscopical description of hæmorrhagic encephalitis had been given



by Elam some years ago. He said that in all the cases he had seen fatal results had ensued. In many instances the diagnosis had been attended with extreme difficulty. He had generally been willing to diagnose these cases as meningitis.

JOSEPH COLLINS, of New York, had observed a case of hemorrhagic encephalitis which corresponded with the description given by Oppenheim. He read the report of the autopsy, which had shown old leptomeningitis, hemorrhagic encephalitis, and a pachymeningitis hemorrhagica. There was no case on record in which these three conditions had been found associated.

Dr. B. SACHS, of New York, said that the recognition of this form of cerebral disease showed a distinct advance in neurology. He had observed four cases, in which two of the patients had recovered and two had died. In one case there had been some doubt as to whether it had been meningitis or not, as there had been slight retraction of the neck, but no positive coma. He looked upon it as a milder disease than basilar meningitis. In one of the patients who had recovered, the cerebral symptoms had appeared simultaneously with the fever. The former had lasted four days and had left the patient with slight ptosis and paresis of the external rectus.

Dr. GRAY asked if in fatal cases more violent symptoms had been shown than in those in which recovery had occurred.

Dr. PUTNAM replied that in some of the more violent cases recovery had ensued. In general the rapid development of severe coma was considered an unfavorable sign. It was frequently quite difficult to distinguish this condition from meningitis. He believed that the severity of the symptoms depended on the amount of poison absorbed into the circulation. We did not yet know the exact significance of retraction of the neck, which was a very unreliable diagnostic sign. In one of his own cases of influenza with symptoms of encephalitis, which occurred in an elderly person, the brain had been found to be only oedematous. Sometimes changes were unrecognizable with the naked eye.

**Cerebral Complications of Raynaud's Disease.**—This was the title of a paper by Dr. WILLIAM OSLER, of Baltimore. After referring to the frequency with which Raynaud's disease was met with in forms of insanity, he said that in a few cases cerebral manifestations which were due apparently to vascular changes and similar to those which developed in the peripheral parts had been described. In the case of a man in his wards, which had been reported in 1891 by Dr. H. M. Thomas, epileptic attacks had occurred in the winter months only, in connection with local asphyxia and superficial necrosis of the ears. The patient had also had hemiglobinuria. In another case, that of a woman aged fifty-two, during a period of six years local syncope and asphyxia had occurred at intervals in the fingers and in the hand of the right side, sometimes with aphasia, and on several occasions with transient paralysis of the right arm and leg. In the final attack the patient had died of gangrene of the right hand and arm. Weiss's case was believed to be the only other instance in which aphasia had complicated the disease. In a third case the patient had had "falling attacks" of an indefinite character with local asphyxia of the legs between the knee and the ankles.

Dr. RIGGS desired to know how often death had been seen to follow this disease.

Dr. OSLER answered that it was rarely fatal. This was the second fatal case with which he was familiar. The literature, however, indicated a number of fatal cases. He considered the complications as having no direct relation with the disease. The associated conditions were rarely serious.

**The Development of Crinism at Various Ages.**—Dr. PUTNAM exhibited a series of photographs showing the appearance of a patient at various periods, ranging from infancy to puberty.

**Tumor of the Thalamus.**—Dr. WALTER CHANNING, of Boston, read a paper with this title, and related the following case: The patient was an unmarried woman of good heredity, by occupation a school teacher. She was of an active, nervous temperament, and had been the subject of hay fever and asthma until the spring of 1895, when she had come under the care of a so-called hay-fever specialist, and had escaped the usual attack. Before her admission into the hospital, on November 29, 1895, she had been for some weeks mildly exhilarated and extravagant in her ideas, but not enough so to interfere with her work until the 22d. The only symptoms she had complained of were headache and insomnia. Her disease had been diagnosed by an alienist of experience as mild acute mania when she had entered the hospital. Since her death her friends had stated that she had had weakness of the left arm before leaving them, but nothing had been said of this when she had entered. She had been mildly exhilarated, with expansive delusions and hallucinations of taste and smell. She had been unable to stand, because of weakness in the left leg, and her left arm had been weaker than the right; there had been no power to move it above the elbow. Headache, not severe or localized, had existed. There had been little nausea. The pupils had been equal in size and had reacted to light. The eyes could not follow the finger. There had been no ophthalmoscopic examination. The weakness in the left side had not been so marked at the beginning as to attract special attention. Afterward its significance had become apparent. The patellar reflex had been slightly exaggerated and alike on both sides; the plantar reflex had been moderate; the color of the urine had been normal, its reaction acid, and its specific gravity 1.022; urea had been normal and the uric acid in excess; the red blood-corpuscles were 4,801,000 and the white 12,400. The mild maniacal excitement had continued for the first week after admission. The patient had been very restless in bed, moving her head from side to side and throwing her right arm over her head. She had also often folded her arms rigidly across the chest, and had clinched the fingers. After the first week she had slowly sunk into a stupor from which it had been difficult to rouse her. The physical symptoms of central disturbance had rapidly become more marked. There had been entire loss of motion in the left arm and the left leg and, later on, in the right leg; there had also been extreme extension of both legs. The jaw had become relaxed and interfered with respiration. The tongue had fallen back into the mouth. Breathing had become jerky and irregular toward the end and, finally, the relaxed jaw could not be replaced, and death had ensued. The autopsy had been made by Dr. E. Willis Taylor, of Boston, who had found a boggy, cystlike looking mass extending back an inch behind the posterior border of the optic thalamus and forward to the junction of the caudate nucleus with the thalamus, the mass apparently having involved the latter

in its entire extent. Microscopical examination had proved the tumor to be a vascular glioma. The mental symptoms in this case seemed to have been quite unlike those of the usual cases of brain tumor recorded, in which depression, dullness, irritability, stupor, and even pronounced dementia were found. Several interesting questions arose, said the speaker, as, for instance, Which symptoms probably presented themselves first, the mental or the physical? Why should there be so much mental disturbance in such a case? Was the mental trouble an accident, and independent of the tumor? If not, how could it be satisfactorily explained? What diagnostic value did mental symptoms possess in cases of brain tumor?

Dr. WHARTON SINKLER, of Philadelphia, thought that the appearance of mental symptoms in thalamus tumors was of much clinical interest. In his experience, somnolence and mental symptoms were of frequent occurrence.

**Hemiplegia and Dementia.**—Dr. GEORGE J. PRESTON, of Baltimore, presented a specimen from a patient with hemiplegia and dementia which showed a tumor occupying the right hemisphere and a condition of condensing osteitis of the skull.

Dr. CHARLES K. MILLS, of Philadelphia, said that tumors of the brain had not only been confounded with acute mania, but also with general paresis. It was sometimes very difficult to distinguish. It was not known that tumors limited to the thalamus produced any characteristic symptoms. They occasioned mental symptoms on account of their destruction of associated cerebral fibres.

Dr. SACHS had seen a case of brain tumor in a child in which mental symptoms had predominated. The autopsy had revealed a large tumor in the right frontal lobe. He did not feel convinced that the mental symptoms in Dr. Channing's case were attributable to the growth in the thalamus. Why might not this patient have had the mental disease independent of the tumor?

Dr. THEODORE DILLER, of Pittsburgh, mentioned a case of tumor of the cerebellum in which the earliest symptoms had been mental. The unexpected often happened in cases of brain tumor.

Dr. CHANNING thought that the coincidence of symptoms was quite remarkable in the case reported.

**The Ectal Relations of the Right and Left Parietal and Paroccipital Fissures.**—This was the title of a paper by Dr. BURT G. WILDER, of Ithaca, N. Y. The parietal and paroccipital fissures might be either completely separated by an isthmus or apparently continuous. When they were so continuous ectally there might still be an ental and concealed vadam or shallow. Disregarding the vadam on the present occasion, the ectal relations of the two fissures might be designated as either continuity or separation. That continuity occurred more frequently on the left side had been noted by Ecker, Cunningham, and the writer. Hitherto, however, statistics had included unmated hemispheres as well as mates from the same individuals. The following statement was based upon the cerebriums of fifty-eight adults of both sexes and various nationalities and characters. The speaker had examined forty-eight; the ten others had been accurately recorded by Bischoff, Dana, Jensen, and Mills.

So far as these fifty-eight individuals were concerned, the most common combination—namely, left continuity and right separation—was decidedly the rule with the moral and the educated, and less frequent with the

ignorant, the unknown, the insane, and negroes, and it did not occur at all in murderers. The only instance of the reverse combination (left separation and right continuity) had occurred in an insane Swiss woman. The only two known to be left-handed represented the more frequent combination of left continuity and right separation. These statistics suggested many special queries and problems, some of which were briefly indicated. But the speaker wished this to be regarded as a preliminary communication and asked the co-operation of other members in the effort to obtain satisfactory results in larger numbers, particularly of the brains of well-born, moral, and educated persons.

**Does Antisyphilitic Treatment prevent the Occurrence of the Diseases of the Nervous System which are considered Syphilitic in Origin?**—Dr. JOSEPH COLLINS, of New York, pointed out that certain diseases of the nervous system occurred sequentially to syphilis with such frequency that they were rightfully looked upon as syphilitic in their origin. These diseases were tabes, general paralysis, syphilitic spinal paralysis, and such exudative conditions as cerebral thrombosis. After briefly reporting the history and treatment in nearly a hundred cases observed in the hospital, the dispensary, and private practice, the speaker concluded as follows: 1. Exudative and degenerative diseases due to syphilis were most likely to show themselves at the end of the third and the beginning of the fourth decade of life. 2. Thorough and prolonged administration of antisyphilitic remedies during the activity of the virus did not seem to materially prolong this time limit. 3. Active and prolonged antisyphilitic treatment seemed to prevent the development of such diseases as locomotor ataxia and general paresis. This was true of degenerative diseases, though treatment might also have some effect in preventing the exudative diseases of the nervous system, such as syphilis of the spinal cord, disease of the blood-vessels, etc. 4. Cases of tabes and general paresis in which syphilis was confessed, in which treatment had been most desultory and incomplete, were not more liable to the early development or to the severe manifestations of either of these two diseases than those in which the treatment had been all it should be. 5. The administration of antisyphilitic remedies in the most approved way did not fulfill the requirements of cure, and syphilis was often an incurable disease.

Dr. PUTNAM referred to a case in which prolonged and thorough antisyphilitic treatment had been employed, yet symptoms of degenerative nervous disease had appeared later in life.

Dr. GRAY said that the facts in Dr. Collins's paper were not detailed as to the symptoms of syphilis or as to the exact treatment. In many instances of suspected syphilis an absolutely positive diagnosis was at times almost impossible.

Dr. SACHS, on the whole, agreed with Dr. Collins. In the vast majority of cases, however, he said, the treatment of syphilis did not prevent the development of tabes or of general paresis. A better way to have arranged statistics would have been to take all cases of syphilis and ascertain if they led to nervous disease later in life. The worst cases of syphilis of the nervous system occurred in those who had never received any treatment. He spoke of a patient who had had pronounced general paresis a year after the initial infection. In late cases it was often difficult to prove the relationship between syphilis and the nerve lesion.



Dr. P. C. KNAPP, of Boston, agreed with Dr. Sachs, and did not believe it wise to withhold antisyphilitic treatment where it seemed to be indicated. He asked Dr. Collins if his cases showed that the development of nervous disease bore any relation to the severity or character of the primary or secondary manifestations of syphilis. Where the cutaneous symptoms were pronounced there was usually less nervous disturbance.

Dr. OSLER said that his experience was diametrically opposed to Dr. Collins's views. The majority of severe cases of nervous disease which occurred in syphilis were in those who had been either badly treated or not treated at all. Early, thorough, systematic, and prolonged treatment would prevent the development of degenerative disease of the nervous system in later life.

Dr. N. E. BRILL, of New York, asked how the author could reconcile with his statistics the fact that antisyphilitic treatment frequently cured incipient tabes and parietic dementia.

Dr. DILLER had seen nervous disease develop in spite of early antisyphilitic treatment.

Dr. PRESTON expressed the opinion that the irregularity with which endarteritis occurred was often overlooked. He had been unable yet to establish the relationship between antisyphilitic treatment and endarteritis. Nervous disease was of a milder type in those who had received careful early treatment, and more marked in those who had not.

Dr. PATRICK said that the author's statistics did not prove that treatment was ineffectual, and thought that the nervous diseases might be due to other causes. Where vigorous treatment was carried out for a brief period and then discontinued, late syphilitic disease of the nervous system was more likely to develop.

The PRESIDENT maintained that it was hardly fair to draw conclusions from two diseases, such as tabes and general paresis, as Dr. Collins had acknowledged that they were not always due to syphilis. The degenerative affections might occur in cases in which there had been thorough treatment.

Dr. COLLINS wished it understood that he had no theories to advance, but had merely tabulated the results of these cases. Particular inquiry had been made in the cases detailed as to the kind of treatment, and in many instances satisfactory knowledge had been obtained. He was not willing to concede that cases which had been referred to by one of the speakers, in which the symptoms of tabes and general paresis had disappeared under antisyphilitic treatment, were genuine cases of tabes or general paresis, but cases of pseudo-tabes and pseudo-paresis, in which the lesion had been exudative and not degenerative, such as was characteristic of these two diseases, and it was his belief that in these cases antisyphilitic treatment was of benefit. He had purposely refrained from saying anything of gummata and had confined himself to the systematic syphilitic diseases of the nervous system.

**The Prognosis and Duration of Attacks of Mental Disease.**—This was the title of a paper by Dr. HENRY R. STEPMAN, of Boston.

Dr. CHANNING called attention to the fact that a general misunderstanding prevailed in the community as to the curability of insanity. It was much more curable than was supposed. General paresis should not be classified among the insanities. The character of the disease had changed in the last fifty years, and our views and classification had therefore changed.

Dr. GRAY said that to speak of insanity as an entity was as if one were to speak of all disease as an entity, and then go back to the old Carlyle tables of mortality for the prognosis of coryza, pneumonia, tuberculosis, typhoid fever, and cholera; while to refer to the old statistics of Pliny Earle was like referring to the hospital results of thirty or forty years ago for guidance in the treatment of the present day. If we were to accept the statistics of results of the insane asylums, we were justified in analyzing their record, and then we were startled to find that no new type of mental disease, no original pathological observation, no new departure in treatment, and not one text-book had ever come from an American asylum, despite the thousands of patients and the millions of dollars they had had at their command.

**Paraplegia from Hæmorrhage into the Spinal Cord due to Pernicious Anæmia.**—Dr. C. E. RIGGS, of St. Paul, read the report of a case, and presented a series of spinal-cord sections. The paper was discussed by Dr. Patrick, Dr. Osler, and Dr. Putnam.

(To be continued.)

## SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of March 4, 1896.

The President, Dr. PARKER SYMS, in the Chair.

(Concluded from page 136.)

**Report of Five Cases of Uterine Retrodisplacement treated by Vaginal Fixation (Mackenrodt).**—Dr. FREDERICK HOLME WIGGIN read a paper with this title (see page 186).

Dr. BARROWS said that he had been greatly interested in Mackenrodt's operation. He had never done it himself, for he had doubted what would be the ultimate result of the operation. There could be no question that the immediate results were good. Now that a fair number of these operations had been recorded, a number had been reported in which very serious obstruction to labor had been met with in subsequent pregnancies. It had been found that the uterus developed along the posterior wall very much more than along the anterior wall, owing to the fixation of the anterior face of the uterus to the anterior vaginal wall, and that consequently the cervix was carried up behind, nearly or entirely out of reach. Ruehl had reported two hundred and thirty-five cases of Mackenrodt's operation done by himself, in ten of which pregnancy had occurred. These patients he had followed to their confinements. Seven of the ten had been confined with difficulty. In the other three cases the cervix had been almost out of reach, and version had been done for relief of the condition. Strassmann and Graefe had each reported a case of Caesarean section made necessary by this same condition, and with fatal result in each instance. He believed that Mackenrodt had expressed himself as being anxious to abandon the operation.

Dr. BROTHERS said that he had been among the first to try the Mackenrodt operation, about a year and a half ago. The first case had been that of a nulliparous woman in whom the result had been imperfect, probably because of his imperfect knowledge of the techniques. The second case had been in a multipara in whom the immediate result had been good. The case had not been seen subsequently. In the third case also the immediate result had been good, but the patient had become preg-



nant, and had miscarried in the third month. After this miscarriage the retroflexion had recurred. The fourth case had been one of vaginal section for the removal of the appendages. The uterus had been fixed, with good result. In the fifth case, vaginal section had been done, and the uterus again fixed to the vagina. It had yielded a good, permanent result. The sixth case had been in a multipara in whom, at the same sitting, the cervix had been repaired, the anterior and posterior vaginal walls narrowed, and the perineum repaired, with good result. The seventh case had been in a multipara with posterior adhesions, which had been broken up and the uterus fixed to the vagina, with good result. It was true that the operation did not imperil the patient's life, but these patients often suffered considerably after the operation. He also had not observed bladder symptoms after the operation. Both Dr. Jacobs, of Brussels, and Dr. Vineberg, of New York, had accidentally passed the finger through into the bladder. The risks after the operation had been described by Dr. Barrows—at least two Caesarean sections had been demanded. Personally he had seen two cases of suppuration follow the operation of vaginal section for removal of diseased annexa, and he believed that they were due either to septic surroundings or septic ligatures. Both patients had, however, done well because the location of the incision had allowed of a free escape of pus. Mackenrodt had done two hundred operations before he had expressed his disapproval of it, hence one should be slow to follow him in his new operation.

Dr. WIGGIN said that he was rather surprised to learn that Mackenrodt had abandoned his operation, because in last September he had met a gentleman who had just come from Mackenrodt's clinic and he had told a different story. In his own mind, the difficulty experienced in subsequent labors appeared to be due to the insertion of the sutures too low down on the vaginal wall. He could not see why there should be any danger of rupturing the bladder in dissecting up from the uterus, for in his cases this part of the operation had seemed to him quite easy of performance. He had employed this same method of dissecting away the bladder in many other cases of pelvic surgery. If the bladder was wounded, it certainly would be very easy to repair the damage done.

**Rupture of the Bladder from Fracture of the Pelvis; Death in Three Hours.**—Dr. J. W. S. GOULEY presented the pubes and ischial rami together with the ruptured bladder of a man twenty-three years of age who, on January 28, 1896, had been crushed between a railway car and a stanchion. The patient had been conveyed to Bellevue Hospital immediately after the accident, in a state of shock, from which he had not rallied, and had died in the course of three hours. The post-mortem examination had revealed multiple fractures of the pelvis with complete separation *en masse* of the pubes and ischia, extravasation of blood in the ambient intermuscular spaces, and an abundant extravasation of urine and blood in the retroperitoneal, pelvic, and hypogastric connective tissue. The anterior wall of the bladder, midway between its neck and summit, had been torn through longitudinally at about an inch to the left of the median line, the rent, an inch in length, allowing the urine to escape into the neighboring connective tissue. Another larger rent had been discovered near the upper fundus of the bladder; this, however, penetrated to but not through the mucous membrane. These two lacerations had been made, probably, by a sharp bony

fragment. Only one kidney, weighing eleven ounces, had been found, but there had been two ureters with corresponding orifices in the bladder.

**Sacculated Bladder containing Two Calculi.**—Dr. GOULEY presented the bladder of a man sixty-four years of age who had died on the 15th of October, 1895, six days after his admission to Bellevue Hospital. When seen, the patient had been in such a feeble condition that no treatment had been undertaken, save the use of opiates to alleviate his suffering and of the catheter to relieve the bladder distended with purulent urine. The cause of death had been pyelonephritis, consequent upon chronic calculous cystitis. The prostate had been only moderately enlarged, but the vesical walls had been much thickened. From the lower fundus of the bladder, close to the base of the prostate, had projected a thick, rounded sac filled with purulent urine and containing a flat stone. This sac, of a capacity of six ounces of fluid, had communicated with the bladder by a single orifice a third of an inch in diameter. Another sac, of a capacity of two ounces, had been detected in the upper and left side of the bladder, communicating therewith by an aperture of about a third of an inch. In the bladder had been found a flat stone, of about the same size and form as that which lay in the larger sac, and measuring seven eighths by two thirds by three eighths of an inch. The stone found in the sac probably had slipped into it when very small, and had attained its present dimensions by slow accretion. Sacculatation in the anterior part of the lower vesical fundus must be of rare occurrence, owing to the anatomical characters of this part of the bladder and of the underlying structures; the most frequent sites of vesical sacs were the sides of the bladder above the tracts of the ureters.

**Hæmatoma of the Ovary and Broad Ligament.**—Dr. A. B. JOHNSON presented such a specimen. It was interesting because rather rare in the experience of the general surgeon, and because the case had simulated very closely cases of perforative appendicitis. The patient, a woman, thirty-five years of age, had never had children. She had been ill four days when first seen by him, and had given a typical history of appendicitis with the occurrence of perforation about twenty-four hours previously. She had had pain in the right iliac fossa, and there had been general distention and tenderness of the abdomen when she was seen, with vomiting, fever, and rapid pulse. On opening the abdomen over the region of the vermiform appendix, a large quantity of fluid blood had escaped, and the appendix had appeared to be perfectly normal. On opening the abdomen in the median line, a tumor had presented, resembling a gangrenous sigmoid flexure. After it was freed from the surrounding adhesions, the tumor had been found to consist of the tube and ovary in which the broad ligament had suffered one complete twist. The interference with the circulation had led to the effusion of blood into the cavity of the tube, as well as into the ovary and ligament, and to a partial rupture, through which the fluid blood had escaped. The tube and ovary had been ligated off, and the belly washed out with saline solution, and closed except for a small gauze drain. She had made a good recovery.

**"Photography by the Roentgen Ray."**—Professor M. I. PUPIN, of Columbia College, delivered an interesting address on this subject. He also demonstrated the working of the apparatus, and exhibited lantern slides of a series of Roentgen-ray photographs, to show what progress had already been made in this new art.

## Miscellany.

**The Employment of Large Doses of Bismuth Subnitrate in the Treatment of Ulcer of the Stomach.**—At a recent meeting of the Medical Society of Munich, a report of which is published in the *Gazette hebdomadaire de médecine et de chirurgie* for July 16th, Dr. Cramer stated that he had used Pleiner's method in the treatment of ulcer of the stomach with some modifications. This method consisted in the employment of from a hundred and fifty to three hundred grains of bismuth subnitrate suspended in six ounces of warm water, which was to be introduced into the stomach through a tube after previous lavage. Dr. Cramer thought it unwise to employ the tube and lavage, as it might cause accidents, and it was not practicable outside of hospital practice. He simply administered the drug to the patients before a meal and having them in a posture fitted to the supposed situation of the ulcer; that is, if the ulcer occupied the posterior wall of the stomach, the patient assumed the dorsal posture; if the ulcer was found to be in the anterior wall, the patient lay on his face in such a manner that the subnitrate could be deposited over the ulcer. At the end of five or ten minutes the water was withdrawn through the tube, and the patient remained in bed for half an hour, after which time he could take his first meal. This treatment had always given very good results at the end of two weeks or a month; in some cases a veritable cure was observed. In depositing the subnitrate on the surface of the ulcer Dr. Cramer thought that it formed a sort of protecting and antiseptic layer, which favored cicatrization and protected the nerve fibres against irritation, which was the prime cause of the very acute pains of which the patients complained. The employment of large doses of bismuth subnitrate should, however, be practised very cautiously, as fatal results had often been observed.

Dr. Tappeiner said that the symptoms of poisoning by bismuth subnitrate resembled those of mercurial poisoning. The black color of the buccal and the intestinal mucous membrane was particularly characteristic; the nervous system was also affected. When the subnitrate was introduced under the skin or brought into contact with a denuded surface it caused symptoms of poisoning. It might also be supposed that in cases of ulcerating lesions of the stomach the internal administration of this drug would produce the same result, although in such cases the power of absorption of the ulcerated surface was greatly diminished.

Dr. von Ziemssen stated that he had employed this drug for a long time combined with opium, with very satisfactory results. Large doses should not be employed, and he considered the introduction of the tube into the stomach to be dangerous in all cases.

**The Hæmstatic Properties of Gelatin.**—At a recent meeting of the Société de biologie, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for July 16th, M. P. Carnot stated that M. Dastre and M. Floresco had shown that gelatin greatly increased the coagulability of the blood, and he thought it would be well to consider its employment as a hæmstatic, for coagulation of the blood was a mechanical defense of the organism to insure hæmostasis.

M. Carnot stated that he had used a five- or ten-per-cent. solution of gelatin heated to 95° F. and had arrested serious epistaxis in cases of hæmophilia, also

metrorrhagia by intra-uterine injections, and hæmorrhage which followed wounds of the hand, etc.

**Subconjunctival Injections of Corrosive Sublimate in Myopia.**—The *Gazette hebdomadaire de médecine et de chirurgie* for July 16th contains a report of the sixth annual meeting of the Congress of Russian Physicians, at which Dr. Preunoff stated that he had employed injections of corrosive sublimate in a hundred cases of myopia, and the results had led to the following conclusions: 1. Subconjunctival injections of corrosive sublimate caused the rapid disappearance of the symptoms of muscular asthenopia, and enabled the patients to resume their occupations. 2. The symptoms of irritation of the chorioid and retina, as well as the photopsia, also disappeared rapidly. 3. Recent inflammatory phenomena in the fundus of the eye and hæmorrhages in this region disappeared, provided the treatment was prolonged for a sufficient time. 4. The visual acuity, the diminution of which depended upon modifications of the media of the eye, increased sometimes to a considerable extent. 5. In no case had any complications set in; several times the progress of the myopia had been arrested. 6. In order to prevent a relapse and a return of inflammatory symptoms of the chorioid and retina, the treatment should be continued for six or eight months.

Dr. Mandelscham said that he had never been able to ascertain the good effects of these injections in similar cases.

Dr. Kraiski had observed that these injections diminished pain in severe affections of the eye, but that they did not arrest the process unless in exceptional cases, notably those in which there were syphilitic lesions. In order to prevent symptoms of irritation, he thought that the corrosive sublimate should be replaced by a more soluble and less irritating mercurial salt.

**Anticholera Serum.**—In the *British Medical Journal* for July 18th Dr. Nakawaga, of Tokio, states that Professor Kitasato's report of December 6, 1895, has been widely referred to in many journals with not a few misunderstandings, and to correct such mistakes the following abstract has been prepared with the professor's permission:

The inoculations for obtaining the antitoxic serum were begun in May, 1895, with cholera bacteria isolated from one of the earliest cases in the last epidemic. At the time the serum treatment was begun at Hiroo Cholera Hospital (August 6, 1895) the supply of the serum was therefore very limited, and what was used for injection in the beginning was not all of the desired strength. Nevertheless, some of the animals had already attained quite a considerable degree of immunity, and the efficiency of the serum of such animals is seen in the following experiments:

1. Without entering into details of the experiments, it may be stated that for guinea-pigs 0.02 milligramme (0.0002 c. cm.) was sufficient to protect against the inoculation of several times the fatal dose of cholera culture—the serum and the virus being injected into the peritoneal cavity simultaneously. The guinea-pigs used in this as well as in all experiments mentioned in the report weighed from two hundred to three hundred grammes.

2. If the serum is injected subcutaneously, the quantity required to obtain similar results was found to be considerably larger (0.02 c. cm.).

3. To determine the antitoxic property of the serum, using the word antitoxic in the strict sense, experiments



were made with the toxine obtained by warming the twenty-day-old cholera bouillon culture for twenty minutes, at the temperature of 131° F. The bouillon culture thus sterilized (the so-called "toxine") was found to be fatal to guinea-pigs in the dose of 1.5 c. cm. when injected into the peritoneal cavity. The antitoxic serum was found to neutralize the effect of 2 c. cm. of sterilized bouillon when injected simultaneously into the peritoneal cavity in the dose of 0.2 c. cm.

Experiments for ascertaining the curative action of the serum were carried on in this wise: A number of guinea-pigs were inoculated with several times the fatal dose of the virus, so that the untreated animals died within twenty hours after such inoculation. At the expiration of each successive hour injections were made in some of the animals, and it was shown that those treated not later than seven hours after the inoculation of the virus were cured, while those in which the injections were made after the lapse of seven hours could not be saved by the serum. In other words, if injected during the first third of the entire course of the disease (thus experimentally produced) the serum can be considered curative.

Two hundred and seventy patients suffering from cholera were admitted into the Hiroo Hospital, Tokio, from August 6 to November 10, 1895, and a hundred and thirty-eight died. Rate of mortality, 51.1 per cent.

Anticholera serum was employed in a hundred and ninety-three cases only, owing to the fact that the supply of serum was inadequate to allow it to be used in all cases.

The rate of mortality among Japanese in nearly all the previous epidemics, as well as that of the last epidemic, has always been about seventy per cent. Without claiming to draw, from a number relatively so small, the final conclusion that the serum treatment was attended with the reduction of twenty per cent. in the mortality statistics, it is evident at least that the result of the new therapy was not an unfavorable one. Moreover, there is reason to believe that with a sufficient supply of very efficient serum the rate of mortality can still be lowered.

Subsidiary results of serum injections are similar to those of diphtheria antitoxine: 1. Urticaria (very common). 2. Arthralgia (observed in eighteen cases only). 3. Myalgia (observed in six cases only).

Obviously there must be difference in the prognosis of each case according to the time which elapsed before the patient came under treatment.

Three cases of cholera were observed in children under two years of age. A bacteriological examination, microscopical as well as cultural, was made in every case.

**Some Observations on the Opium Habit.**—In the March and June number of the *Chinese Medical Missionary Journal* Mr. Philip B. Cousland publishes an article on this subject in which he remarks that all, except a few interested people, agree as to the hurtfulness of the use of opium in excess. From five to ten per cent. of the population of China are habitual smokers, and of these, ten per cent. are "opium sots." It has been stated that the habit is generally practised in moderation, and that when it is so practised injurious effects are not apparent. The meaning of moderation here, Mr. Cousland says, is evidently that there are no injurious effects, and if this is so, he does not agree to the conclusion that the habit is generally practised in mod-

eration, for his experience has been that it is rare to find no evidences of injurious effects—moral, physical, or social. In the vast majority there are more or less idleness, inactivity, want of energy, diminished capacity for work, chronic constipation, sometimes alternating with diarrhoea, loss of flesh, dusky complexion, weakening of will power, general shiftiness of character, and an intensified natural disregard for truth. These are seen in the vast majority of the so-called moderate smokers. The social effects are by no means the least. In the part of China of which he writes, says the author, a man earns from fifteen to twenty cents a day. Few opium smokers use less than ten cents' worth of opium daily, and many use more. A man may exist on five cents a day, but he can not support himself and his family even on twice that sum; hence the average moderate smoker is insufficiently nourished, his wife and children are half starved, and much misery and wrongdoing result. It may be said that this is not the result of the opium, that it is due to its expensiveness. To this it may be replied, says Mr. Cousland, that but for the habit or slavery to the pipe it would not occur, and therefore it is the result of the moderate use of opium. One year six hundred opium smokers registered at the Swatow Hospital for treatment. The great majority of them were moderate smokers, and yet they could not stop smoking. Why, asks Mr. Cousland, if moderate smoking is so harmless, do they wish to stop? Surely these injurious results are apparent enough to the careful observer.

Opium, continues the author, can not be put on a par with alcohol. Most men may take the physiological quantity of alcohol daily and yet give it up whenever required. It is not so with opium. If a man smokes a small quantity daily for a few months, he has formed the habit and can not easily give it up. With determination he could endure the suffering and break off the habit, but if he keeps it up, his will power deteriorates and he can not give it up. This shows that there is no parallel. Opium is much the stronger narcotic poison of the two. The rapidity with which it takes hold of a man in the ordinary run of cases is paralleled only in instances in which there is an hereditary alcoholic history. Who, he asks, ever heard of a moderate drinker going to a hospital or to his physician to be broken of the habit, and suffering severely while undergoing the deprivation? The habitual users of opium can not be fairly compared with habitual moderate users of alcohol; the only fair comparison would be to place the habitual opium smoker on a par with the man who uses alcohol in more than physiological doses, that is, an alcoholic or chronic "soaker."

Mr. Cousland states that he has come across no evidence that malarial affections have anything to do with the use of opium in China; it is a social vice. The agriculturists, as a class, are not addicted to its use, in spite of their exposure to malarial affections, and the habit flourishes to a greater extent in towns and cities than it does in small villages.

**Spontaneous Rupture of the Heart.**—In the *Lancet* for July 18th Dr. T. N. Kelynack relates the following case: An old man about sixty-eight years of age was brought to the Manchester Royal Infirmary in an unconscious condition. The patient's friends stated that he had been at his place of business as usual all day. He had, however, complained of feeling unwell. In the evening he went out into the back yard and was



found shortly afterward on the ground in an unconscious condition. He was immediately brought to the accident room of the infirmary, which he reached some ten minutes after being found. He had during the previous six months had two or three fainting attacks. His memory had been deficient and his relatives had noticed that he had been somewhat strange in his conduct and peculiar in his manner for some time past. When first examined he was quite unconscious and lay perfectly still, breathing quietly. There was no paralysis, spasm, tremor, or rigidity. The pupils were equal, normal in size, and reacted to light. In about five minutes he began gradually to recover consciousness and was able very soon to speak. He complained of pain in his head and seemed somewhat dazed and disinclined for any exertion. He could, however, walk, although he was generally very feeble. His mental condition was peculiar, and it was deemed advisable to admit him as an inpatient. He slept well during the night and the next morning declared himself as feeling very well. All discomfort about the head was gone. There were no nervous symptoms. He was able to speak clearly and could answer questions, but he still showed signs of mental feebleness. The respiratory and digestive systems appeared to be normal. The cardiac dullness was not increased and on auscultation of the heart nothing abnormal could be detected, except a slight accentuation of the first sound at the apex. The radial arteries did not appear to be markedly atheromatous. The urine was dark-colored and of specific gravity 1.018. It contained a fairly large amount of albumin, but no casts. During the day he appeared bright and cheerful and took his food well. About midnight he became restless and got out of bed and began dressing, saying that it was morning and he must go home. The following morning—that is, on the third day after admission—he seemed perfectly well and arrangements were made for his friends to remove him. Soon after midday he quite suddenly had a “fit” somewhat of the nature of an epileptic seizure. Convulsive spasmodic movements occurred in the right hand and arm. The mouth was drawn to the left side and the right side of the mouth moved very little. He was quite unconscious and the breathing was stertorous. His hands were cold and no pulse could be detected at the radials. In about ten minutes the stertorous breathing was replaced by irregular shallow gasps, the interval between which became progressively longer until death occurred a few minutes later. On auscultation over the cardiac area just before the last respiration no cardiac sounds could be heard. The pupils at the beginning of the attack were markedly contracted, but later became slightly dilated and unequal.

Forty-eight hours after death the author made a post-mortem examination of the body, with the following results: Externally the body was that of a well-formed, moderately nourished old man. The face was pale. The pupils were small and unequal, the right being a little the smaller; there was slight arcus senilis. There was extensive oedema of the chest wall, which was of a somewhat solid character; and also anasarca of the back, loins, buttocks, and back of the thighs, but little or none of the extremities. Rigor mortis was well marked. Internally the cavity of the pericardium was distended with recent blood-clot. The heart was small and contracted. Along the postero-external border of the left ventricle blood-clot was slightly adherent to the visceral layer of the pericardium. On

gently separating it a small, irregular, blood-infiltrated area was exposed and in it a small rupture. The ventricular wall at the point of rupture was very much softened, exceedingly friable, and of a dark brownish-red color. The necrotic area appeared to be infiltrated with blood and extended almost from the endocardium to the rent in the pericardium. The whole of the myocardium forming the left ventricle was unduly soft and flabby. The cavities, orifices, and valves of the heart appeared to be fairly healthy. There was, however, slight induration and fenestration of the aortic cusps. The coronary arteries were extremely atheromatous, especially the branches supplying the left ventricle. These were much calcified and seemed practically occluded. The aorta was extremely atheromatous; no aneurysm was present. The pleuræ were congested and there were large areas of pleuritic fibrosis over the apices of both lungs, which were congested and very oedematous; there was no tubercle or hæmorrhage. As regards the abdomen, the peritonæum was normal. The gastro-intestinal tract was congested. The liver, which was enlarged, weighed fifty ounces, and was slightly congested and fatty. The gall bladder was normal, and the pancreas was congested. The kidneys were slightly enlarged, weighed four ounces and a half each, they were a little granular, and the capsule was somewhat adherent; a large simple retention cyst was observed in the right organ. The ureters were normal and the bladder was distended with urine. The prostate was not appreciably enlarged and the testicles were apparently normal. The dura mater was adherent to the skull-cap, the vessels were congested, and there was slight subdural hæmorrhage along each side of the falx cerebri. The pia-arachnoid was congested; there were no hæmorrhages. The brain was congested and slightly oedematous; no hæmorrhages were present; there was a small patch of softening at the posterior border of the right lobe of the cerebrum. The cerebral vessels were extremely atheromatous.

The ventricular wall at the seat of rupture was carefully hardened in alcohol and imbedded in celloidin, and sections were cut by means of a freezing microtome. A large number of preparations, both stained and unstained, were subjected to examination. The chief changes were as follows: The muscular fibres stained badly; they had a more or less homogeneous appearance, and their nuclei and striæ in many places had disappeared. They were much broken up and separated by an extensive infiltration of blood. Between the necrotic muscular elements, and in parts displacing them, was a fibrouslike network with blood-corpuses. In some parts the corpuses were not distinct, but formed a mere granular structureless mass. The affected portion extended up to the pericardium. Leucocytes infiltrated the whole area more or less, but were especially abundant at the borders of the hæmorrhagic parts. The branches of the coronary arteries in the sections were practically obliterated.

In this case, says the author, a progressive atheromatous arteritis of the coronaries, especially of those branches supplying the left ventricle, seemed to have led to a localized softening—a condition of myomalacia—and, the vascular obstruction finally becoming complete, a so-called hæmorrhagic infarct had resulted, with final rupture through the necrotic and blood-infiltrated area.

It is important from a medico-legal point of view, says Dr. Kelynaek, to remember that death is not always

instantaneous in rupture of the heart. This case is a striking example. The rapidly developing oedema and the epileptoid attack formed points of considerable clinical interest, which tended rather to confuse than to aid in the diagnosis.

**A Remarkable Case of Hypothermia.**—In the *Journal des praticiens* for July 18th M. H. Claude relates the following case: The patient, a man twenty-five years old, had fallen unconscious in the street. His face was very pale, his eyes were surrounded by a blue circle, and the skin was cold and marked with violet-colored spots. The extremities were cyanosed, the pulse was imperceptible, and the heart beats could scarcely be heard. The rectal temperature was 101.6° F. Four hours later, under the influence of a therapeutic agent, it fell to 96.4°; there was great weakness and the pulse remained imperceptible. On the following day the temperature rose to 98.3°. It was learned that the patient had some time before been seriously poisoned by the vapors of mineral acids, and that he had given up his work on account of his loss of health. A slight subicteric hue and a notable diminution in the urine were observed. The urine contained albumin and urobilin, and showed hypazoturia. The stools were decolorized and slimy; the liver was painful spontaneously and on pressure. During the following days the temperature rose until it reached 104° one day. The general condition, however, was better; the urine became more abundant, the proportion of urea increased, and the reaction of the biliary pigments appeared. At the end of three weeks convalescence set in, the strength returned, and the albumin and the urobilin disappeared. The liver remained somewhat large. At the end of two months the patient left the hospital. A bacteriological examination of the blood was negative.

The cause of all these symptoms, says M. Claude, appeared to be an hepatic alteration. The sensitiveness of the liver, the subicteric hue, the decolorization of the stools, the diminution of urine, the hypazoturia, and the urobilinuria all indicated an intense lesion of the liver. It seemed that the mineral poisoning had altered the liver or predisposed it to a new form of poisoning, probably of gastro-intestinal origin. The vitality of the hepatic cells was profoundly affected, and symptoms of hepatic insufficiency manifested themselves suddenly. The diseased liver, however, repaired its lesions, the hepatic cells resumed their function, and the hepatitis completely disappeared, apparently, at least.

**The Serum Diagnosis of Typhoid Fever.**—The *Journal des praticiens* for July 11th contains a report of a recent meeting of the Académie de médecine at which M. Dieulafoy read a paper on this subject. He alluded to a very important communication recently made by Vidal in regard to a method of making an exact diagnosis in typhoid fever. The procedure was as follows: A pure culture of Eberth's bacilli was made in bouillon, and a preparation of this culture was placed under the microscope, when isolated and moving bacilli could be seen.

In order to make a comparison, a mixture was made in a test tube, which was composed of ten drops of the bouillon with the culture of Eberth's bacilli and a drop of blood, or, better still, of serum which had been separated from the blood of the finger of a typhoid-fever patient. A preparation of this was then placed under the microscope, and a startling phenomenon could be seen. The bacilli were not isolated and moving as in the pre-

ceding preparation; they had lost their mobility and had become agglutinated and joined together in masses, and in the preparation on the plates they had formed large islets which were separated by wide spaces; these spaces were also dotted with bacilli which were less mobile, undefined in appearance, and, as it were, drawn finally toward the masses, with which they became blended in their turn. This was the unvarying and startling phenomenon to be seen.

From this, said M. Dieulafoy, the diagnosis was made. A patient who furnished a serum which could cause similar changes in a bouillon of typhoid-fever culture, which manifested such agglutinant and immobilizing properties, was certainly attacked by typhoid fever, and by no other disease.

This phenomenon had been observed many times by Vidal with the serum taken from patients who were in different stages of the disease. On the other hand, Vidal had collected the serum from fourteen patients who were suffering from other diseases, such as nephritis, tuberculosis, pneumonia, icterus, rheumatism, etc., and experimented with it as described in the foregoing paragraph, and found that the bacilli remained moving and isolated.

The procedure, said M. Dieulafoy, was simple and rapid; it needed no laboratory material and no coloring matter; it was sufficient to have a culture in bouillon of Eberth's bacilli, which could be kept for several weeks, a microscope with the objective immersed, and a few drops of blood or of the serum of the blood of a typhoid-fever patient.

M. Dieulafoy stated that he had made a test of this method at the Hôpital Necker, and that he had easily obtained the same results.

**Low-temperature Pasteurization of Milk.**—The August number of the *Archives of Pediatrics* contains an article on this subject by Dr. Rowland G. Freeman, who states that during the year 1891 to 1892 he made a study of the subject of pasteurization and his conclusions at that time were that pasteurization of milk at 167° F. was superior to other methods of sterilizing, and that if it was kept for twenty minutes at that temperature it was fairly sterile. He felt convinced, however, that 167° F. was as high as milk should be sterilized at, and he was inclined to think, moreover, that a lower temperature would be as safe, had it not been for the high temperature at which the thermal death point of the *Bacillus tuberculosis* was placed at that time by those who had experimented for the purpose of determining it. From one point of view, he says, there is a decided advantage in pasteurizing milk below 158° F., for at about that temperature the change in the taste of milk takes place, while if it is heated to a lesser degree it retains its original flavor. This change is unnoticed by infants who are brought up on sterilized milk, but it is often strongly objected to by older children and adults. If, then, milk can be satisfactorily pasteurized below 158° F., a distinct advantage is gained in the unchanged taste of the milk, and the chemical changes are also avoided to a greater degree.

Pasteurization at 155° F., says Dr. Freeman, as far as the ordinary air bacteria are concerned, gives almost as good results as that at 167° F. The milk is freed from almost all the living germs, and those pathogenic bacteria which are most likely to cause disease are also destroyed. The only pathogenic bacterium which is not destroyed by a short exposure to a temperature of 140° F. or less is the *Bacillus tuberculosis*; but there is evi-



dence that this micro-organism is destroyed by a temperature of less than 158° F., and, indeed, by a temperature of 140° F. of sufficient duration. The evidence of the more recent observers, he says, seems to him sufficient for a conclusion that a temperature of 149° F. kept up for fifteen minutes is sufficient to kill tubercle bacilli, and he recommends pasteurization at between 149° F. and 167° F. for the following reasons:

1. It destroys almost all the ordinary air bacteria which occur commonly in milk.

2. It destroys the *Bacillus tuberculosis*, the *Bacillus typhosus*, the *Bacillus diphtheriæ*, and many other pathogenic bacteria.

3. It causes no change in the taste of the milk and prevents those chemical changes in milk which are produced by higher temperatures.

4. It is possible to pasteurize accurately at this temperature without the use of a thermometer.

**The American Electro-therapeutic Association.**—The secretary, Dr. Emil Heuel, has issued the following announcement: The sixth annual meeting will be held in Boston, on Tuesday, and Wednesday, September 29th and 30th, and Thursday, October 1st. This meeting promises to be very successful, and much interest is shown in all quarters. There will be two discussions of importance on electro-therapeutics, interesting reports of all standing committees, and several scientific lectures, with demonstrations and stereoscopic views, including those of the Röntgen rays and electric principles in the treatment of disease. The exhibition is expected to be a feature of more than usual interest. The following list includes the names of the members of the different committees: Dr. Robert Newman, of New York; Dr. Holford Walker, of Toronto, Canada; Dr. D. B. Deaver, of Reading, Pa.; Dr. Robert J. Nunn, of Savannah, Ga.; Dr. Emil Heuel, of New York; Dr. William J. Morton, of New York; Dr. G. Betton Massey, of Philadelphia; Dr. William J. Herdman, of Ann Arbor, Mich.; Dr. Wendell C. Phillips, of New York; Mr. A. E. Kennelly, of Philadelphia; Dr. D. R. Brower, of Chicago; Dr. M. A. Cleaves, of New York; Dr. O. B. Douglass, of New York; Mr. W. J. Jenks, of New York; Dr. J. H. Kellogg, of Battle Creek, Mich.; Mr. R. G. Brown, of Brooklyn; Dr. Charles R. Dickson, of Toronto, Canada; Dr. L. Hall-Brown, of Brooklyn; Dr. E. C. Riggs, of St. Paul; Mr. J. J. Carty, of New York; Professor A. E. Dolbear, of Boston; Dr. W. H. White, of Boston; and Dr. Frederick H. Morse, of Melrose, Mass.

**Albuminuria after Vaccination.**—Professor Emil Peiper and Mr. Siegfried Schnaase, of Greifswald (*Berliner klinische Wochenschrift*, 1896, No. 4; *Deutsche Medizinische Zeitung*, July 20, 1896), give the results of their investigation on a large scale of this subject, which had previously been treated of by Falkenheim, of Königsberg. The authors made four hundred and seventy-four urinary examinations in a hundred and twenty-two cases of primary vaccination, and found slight opalescence of the urine nine times in seven children, a proportion of 5.73 per cent. In no instance was there evidence of nephritis, and no relation was observed between the occurrence of albuminuria and the number of the pocks or the severity of the fever. Among fifty-four cases of revaccination, there were ten of slight albuminuria, but one of them should be excluded, that of a person with mitral insufficiency in whose urine albumin had been found before the vaccination. In revaccinated recruits they found albuminuria in 10.63 per cent. of

the cases. They regard vaccinal albuminuria as of no special significance.

**The Discovery of Iodine in the Hypophysis Cerebri.**—It will be remembered that Professor Baumann, who discovered thyreiodine, stated in the *Münchener klinische Wochenschrift* last April that he had failed to find iodine in the hypophysis cerebri. But Dr. Julius Schnitzler, of the Francis Joseph Hospital, of Vienna, and Dr. Karl Ewald, of Professor Albert's surgical clinic, announce in the *Wiener klinische Wochenschrift* for July 16th that at the very time when the Munich journal containing Baumann's statement reached them they were engaged in testing the hypophysis for iodine. They continued their experiments, using large quantities of hypophysis—as much as two hundred and ninety grains in one instance and three hundred and sixty-five grains in another—and found, to their astonishment, evidence of the presence of considerable amounts of iodine. They had followed Baumann's process strictly, and when they acquainted him with their results he ascribed them to the large quantities of material used. Schnitzler and Ewald believe that the discovery of iodine in the hypophysis is another step in our knowledge of the vicarious relations between this gland and the thyroid.

**Non-poisonous White Lead.**—The *Fortschritte der Medicin* for July 15th contains a note by Dr. M. Kirchner, of Hannover, on an article by K. B. Lehmann which appeared in a recent number of the *Hygienische Rundschau*. It seems that a Glasgow white-lead company, some time ago, put lead sulphate on the market under the name of non-poisonous white lead, and that the council of inquiry of the League of German Artists warmly recommended it. Lehmann, however, states that he had previously succeeded in killing a cat in thirty-six days by the daily administration of three grains of lead sulphate. Although it is insoluble in simple water, considerable lead is dissolved by the addition of dilute hydrochloric acid or a solution of common salt. Lehmann therefore gives warning against the use of this pigment, and remarks in regard to the artists' council: "How hazardous it is for chemists who have made no special study of biology to pose as experts in special toxicologic-hygienic questions!"

**The Central College of Physicians and Surgeons, of Indianapolis.**—The *Indianapolis Sentinel* for July 24th speaks of the reconstruction of the college building now going on, and takes occasion to add a sketch of the history of the institution. It seems that the repairs are of a radical character, but it is expected that they will be finished by the middle of September. The *Sentinel* gives the list of teachers as follows: John Moffett, M. D., emeritus professor of obstetrics; Joseph Eastman, M. D., LL. D. (president), professor of diseases of women and abdominal surgery; John A. Sutcliffe, A. M., M. D., professor of surgery and of genito-urinary and rectal diseases; Samuel E. Earp, M. S., M. D. (dean and secretary), professor of materia medica, therapeutics, and clinical medicine; Allison Maxwell, A. M., M. D., professor of the principles and practice of medicine, physical diagnosis and sanitary science; E. J. Brennan, M. D., professor of obstetrics and clinical midwifery; John B. Long, M. D., professor of descriptive and surgical anatomy; John F. Barnhill, M. D., professor of physiology; S. E. Crose, A. M., M. D., professor of medical chemistry, toxicology, and medical jurisprudence; William B. Fletcher, M. D., professor of diseases of the mind and clinical medicine; William H. Thomas, M. D., professor



of diseases of the nervous system; Green V. Woolen, A. M., M. D., professor of rhinology and laryngology; William M. Morgan, M. D., professor of fractures and dislocations and of orthopædic and clinical surgery; H. O. Pantzer, M. D., professor of clinical gynecology and the principles of surgery; Louis Burckhardt, M. D., professor of operative and clinical midwifery; Albert E. Sterne, A. M., M. D., professor of the anatomy, physiology, and pathology of the nervous system and of clinical medicine; Minor Morris, A. B., M. D., professor of pathology, dermatology, and bacteriology; Levi L. Todd, M. D., professor of clinical medicine and lecturer on gastric and pulmonary diseases; John L. Masters, M. D. (treasurer), professor of diseases of the eye and ear and of histology; John A. Lambert, Ph. G., M. D., professor of diseases of children; Joseph Rilus Eastman, B. S., M. D., adjunct professor of physiology; Thomas B. Eastman, A. B., M. D. (assistant secretary), adjunct professor of anatomy and assistant in diseases of women; Charles O. Durham, M. D., demonstrator of anatomy; Thomas E. Courtney, M. D., assistant demonstrator of anatomy; Martin V. B. Newcomer, M. D., lecturer on railroad surgery; H. G. Gaylord, M. D., demonstrator of bacteriology; S. P. Scherer, M. D., assistant in practice of medicine; F. C. Tinsley, M. D., assistant in materia medica; Leonard Bell, M. D., assistant in pathology; Amasa Mullan, M. D., demonstrator of chemistry; Amelia R. Keller, M. D., clinical assistant in clinical gynecology; J. J. Booz, M. D., assistant in chemistry; John Kolmer, assistant in physiology.

**The Practice of Pharmacy as a Liberal Profession.**—The *Journal of the American Medical Association* for July 11th contains an address which was delivered by Dr. F. E. Stewart, of Detroit, at the annual meeting of the American Medical Association, of which the following is an abstract: If pharmacy is a department of science, its practice is a medical art. It therefore follows as a natural sequence that pharmacy must be regarded in the light of a medical specialty, and the pharmacist is under the same obligation to science, to the profession, and to suffering humanity as the physician.

Medicine, says Dr. Stewart, is a liberal profession. It is distinguished from a mercantile pursuit in that its primary object is service to humanity. Medicine owes its high position among the vocations of men to its philanthropic aim, seeking in every way to relieve and prevent human suffering, devoting itself to original research, and publishing its results for the benefit of science, constantly sacrificing self-interest to aid others, and neglecting, for philanthropic reasons, to take advantage of many opportunities for gain.

If this is true, he says, then pharmacy can never be recognized as a liberal profession until it becomes part of the medical profession, for it can not, from the very nature of things, become a profession by itself. Pharmacy is directly dependent upon therapeutics, and is like a body without a soul when divorced therefrom.

Pharmacy can find its higher advancement, not by catering to an unenlightened public, unfitted to appreciate it either from a scientific or professional standpoint, but by working with physicians to a common end, that end being the promotion of progress in pharmacology as a science, the advancement of pharmacy as a profession, and the study of means to prevent and alleviate human suffering. By serving this end pharmacy will find its true position among the liberal professions.

As a trade, Dr. Stewart thinks, pharmacy would seek to create a fictitious demand for drugs by exaggerating their importance as curative agents, thus pandering to the morbid tendency of the public to dose itself for real or imaginary diseases. As a profession it will join with the medical profession in efforts to relieve the public of the necessity of taking medicine. Co-operation between the physician and pharmacist is absolutely indispensable to the advancement of pharmacologic science, for, as already said, neither therapeutics nor pharmacy as science or practice can exist alone.

The science of medicine professes to exhibit what is actually known, or may be learned, in the forms of exact observation, precise definition, fixed terminology, classified arrangement, and rational explanation. To promote the progress of the science of drugs it is therefore necessary for both professions to publish the results of their discoveries for the benefit of science. It is just as reprehensible for physicians to neglect the publication of the results they obtain from the use of drugs, or their preparations, as it is for the pharmacist to restrain the knowledge of the same from general use, by means of secret formulas, protected from legitimate competition by fanciful names which are registered as trade-marks at the patent office in Washington. How, asks Dr. Stewart, can the demands of science be satisfied unless the knowledge of every substance used in medicine, together with its method of preparation and application, is published and its manufacture and sale open to legitimate competition?

Dr. Stewart calls attention to the position and responsibility of the physician and pharmacist in relation to the pharmacopœia. On the analysis of twenty-seven thousand prescriptions recently made, he says, by Professor Patch, president of the American Pharmaceutical Association, it was shown that the pharmacopœia was sadly neglected by physicians. Only seventeen vegetable drugs were prescribed, and more than a hundred drugs of vegetable origin neglected. Ten metals were honored, but more than ten were left out in the cold. In fact, the entire materia medica comprised in these twenty-seven thousand prescriptions consisted of the following drugs and preparations:

Acetanilide; antikamnia; antifebrine; antipyrine; aristol; phenacetine; arsenious acid; boric acid; carbolic acid; hydrochloric acid; salicylic acid; sulphuric acid, and twenty-five other kinds of acids; aconite and its preparations; ammonium salts, chloride, carbonate, bromide, etc.; belladonna, its preparations and alkaloids; bismuth salts, principally the subnitrate; brandy; camphor and its preparations; cascara sagrada and its preparations; chloroform, its preparations and combinations; cinchona and its preparations, combinations, and alkaloids; digitalis and preparations; gentian and preparations; ginger and preparations; glycyrrhiza and preparations; hyoscyamus and preparations; iodine and preparations; lead salts and preparations; mercury, its salts and preparations; nux vomica, its preparations and alkaloids; potassium salts and preparations; rhubarb, its preparations and combinations.

In this study of 27,000 prescriptions from nineteen drug stores distributed in Chicago, Philadelphia, Bayonne, N. J., Boston, Washington, Baltimore, Denver, San Francisco, New Orleans, Cincinnati, and St. Louis, 11.25 per cent. were proprietary articles, not including many elixirs, pills, tablets, fluid extracts, etc., which were of specified manufacture.

An analysis of 10,000 prescriptions, made by the

committee on revision of the *United States Pharmacopœia* of the Illinois Pharmaceutical Association, shows that in 2,613 prescriptions, or about a fourth of the whole number, proprietary remedies were prescribed. Many proprietary articles are of the greatest value, says Dr. Stewart. They are often the products of manufacturing houses provided with the very best facilities of manufacturing. Many of them represent the researches of the most learned chemists, extended over years of careful investigation. In fact, it is fair to assume that some of our proprietary medicines advertised to the medical profession in the medical journals represent the van of progress in pharmacy. To be sure, some of them are of comparatively little value, and should find a place in the lumber room with the trash in company with much of what is now official in the pharmacopœia.

Assuming, says Dr. Stewart, that the proprietary medicines referred to are valuable pharmaceutical preparations, it is evident that a place should be found for them in the next revision of the pharmacopœia. It is equally evident that they can not be admitted as proprietary medicines, unless the medical profession shall indorse a system which withholds from general use that entire class of preparations. Such an indorsement, he thinks, on the part of the medical profession would be a complete surrender of the altruistic ideal that distinguishes the practice of medicine as a liberal profession and an indorsement of a most dangerous form of commercialism.

From what has been said it is very evident that affiliation between physicians and pharmacists is of the first importance in promoting progress in the knowledge of pharmacology, in improving our pharmacopœia, and in rescuing medical and pharmaceutical practice from the grasp of the proprietary-medicine trade which is now encroaching upon the domain of the pharmacist and the physician. It may be said that there are unsurmountable obstacles to affiliation between physicians and pharmacists. They are at war with one another everywhere. Physicians, says the author, charge that pharmacists prescribe over the counter, and that the practice is unjustifiable, as they are not competent to do so either by education or training, and it is an unwarrantable interference with the physician's prerogative to treat the sick. But the pharmacist can urge with equal propriety that the physician is not competent to compound and dispense his own medicine, and that for him to do so is an unwarranted interference with the prerogative of the pharmacist. There is a great deal of difference between the deep blue sea and the dry land, although one overlaps the other on the beach, and it seems to Dr. Stewart that this question of interference between the physician and the pharmacist is something of the same nature. Both may wade with impunity in the shallow waters along the shore, and do no real harm to each other, or to the public at large. But there are depths in pharmacy capable of drowning the venturesome physician; and the pharmacist who attempts to climb the high mountains of diagnosis and treatment is sure, sooner or later, to fall and break his neck. Yet in some countries these prerogatives are protected by law, and both physician and pharmacist must keep on his own side of the fence.

But, say the physicians, we can never unite with pharmacists until they no longer renew our prescriptions without our authority. It is damaging to our reputation and purse, and a very unfriendly act to say

the least about it. But physicians lose sight of the fact that both professions are servants to the public, and if the patient is refused the privilege of having his prescription renewed, he will seek another physician and another pharmacist. Not until the public is educated to appreciate the necessity of consulting the physician before renewing prescriptions will the prescription-renewing nuisance be abated. Pharmacists, to a great extent, are powerless in the matter, and the medical profession has done much to foster the abuse by prescribing ready-made nostrums; so the fault is not entirely with the public either.

Physicians complain bitterly that pharmacists sell "patent" medicines and thus make themselves the agents of the nostrum monger. But the proprietary-medicine business owes its present standing in the community more to the medical profession than to the pharmacist. More than ten per cent. of the medicines prescribed by the physicians in the United States are so-called patent medicines, and the physician is just as much to blame for prescribing them as the pharmacist for selling them. Dr. Stewart can see no good reason why harmony can not be restored between the pharmacist and physician. Once both are in touch and working for a common object, many of the evils now complained of will rectify themselves in time, and the public will soon feel the influence of a united profession, and respect the calling of both physician and pharmacist more highly in consequence.

**The Mississippi Valley Medical Association.**—The secretary, Dr. Hanau W. Loeb, announces that the date of the meeting has been changed to September 15th, 16th, 17th, and 18th, in order to permit the members and their families to take the opportunity accorded by this change to make a tour through the Yellowstone Park. Prominent resident members of the association in St. Paul and Minneapolis are perfecting plans for the special Yellowstone Park excursion trip, to leave on the evening of September 18th, arriving in Mammoth Hot Springs, in the Yellowstone Park, about noon on the following Sunday, and devoting the following five days to the wonders of this remarkable region, returning to St. Paul on Sunday, September 27th. The cost of the trip, including all expenses west of St. Paul, will be announced in due season, but it is stated that the figure will be a very favorable one. This announcement is made so as to give members the opportunity of making their plans in advance to join the party. It is desirable that there be a party of a hundred or more, in order to obtain the benefit of the special train service in both directions. It is urged that all members who desire to join the party should send their names to Dr. C. A. Wheaton, chairman of the committee of arrangements, 351 North Washington Street, St. Paul, at as early a date as possible.

**A Ceylon Physician killed by a Snake.**—Universal regret will be felt in medical circles, says the *Indian Medical Record*, at the death following snake-bite of Dr. Arthur Stradling, who has for many years past devoted himself to the study of Indian and Ceylon snakes and their poisons, with a view to the discovery of an antidote. He had, as he imagined, rendered himself almost proof against the venom of snakes, but in this belief he was mistaken, for while he was conducting an experiment recently with one of the deadliest snakes of Ceylon the reptile bit him, and death followed within a few hours.



## Original Communications.

### MALIGNANT PUSTULE OF THE FACE.\*

By JOHN F. ERDMANN, M. D.

PATRICK McD., aged fifty years, married, Ireland; occupation, wharfman—unloads ships. This patient says that while smoking a pipe, about the 1st of March, a spark lit on his right cheek and left a small red spot, but gave him no discomfort. About eight days following he noticed a small pimple on his cheek at about the same place that the spark had burned him. On March 16th a friend called his attention to a running sore on his cheek; at this time, he says, the pimple had become a spot of the size of a silver quarter, had angry edges, and a black centre to it; that the black looked



like a scab, while on the edge there were numbers of blisters. On the 18th he came to Gouverneur Dispensary and was treated with acetanilide; the area could just be covered with a fifty-cent piece, had a black centre, and numerous vesicles containing serum and sero-pus about the edges. Redness and swelling extended to the eyes.

I saw him on the 19th, at which time the central slough was fully as large as a silver fifty-cent piece, and the vesicular edges extended fully an inch about the slough. The eye was almost closed, and the forehead on the right side oedematous. Pulse was 78 to 82; temperature and respiration normal; patient in excellent condition and at work during the day. Suspecting anthrax, I obtained some of the serum and blood, and had it examined by the board of health bacteriologists, who reported the specimen to contain numerous anthrax bacilli.

The ulcer was dressed with a 1-to-40 carbolic solution, and the patient allowed to go out.

Under the carbolic lotion the swelling disappeared in forty-eight hours, and no further extension of the ulcer was observed. At this time, March 21st, almost all the slough was cut off and the actual cautery applied over the entire area. Upon cutting off the slough, which was hard and dry and could be pared like leather, numerous small foci of yellow material, resembling pus, were exposed. Cultures from these parings gave no evidence of the anthrax bacillus. From this time on the patient has made a rapid recovery.

I present him to you to-night with a healthy, healing surface, and, at the same time, present you with a photograph as he appeared on the day of cauterization. There was no history of handling wool or hides during the time of the burn and the development of the pimple.

### X RAYS IN THE DIAGNOSIS OF FRACTURES

By W. H. HANCKER, M. D.,

FARNHURST, DEL.

H. H., aged thirty-five years, of Newcastle, Del.; weight, two hundred and twenty-five pounds; during an attack of somnambulism on the morning of June 11, 1896, fell a distance of four feet while descending the stairs. He alighted in a sitting posture, with his hand under him, and in a state of pronation, his whole weight resting upon his right wrist.

His family physician, Dr. David Stewart, Jr., was called about six hours later. Owing to the extreme stoutness of the patient and the excessive tumefaction and tenderness around the injured wrist (the antero-posterior diameter being about three inches), a positive diagnosis



was impossible without the aid of an anæsthetic, which the patient strenuously opposed. Acting under the supposition that he had a Colles's fracture to deal with, Dr. Stewart applied the proper splints. Two weeks after the injury the patient was brought to the Delaware State Hospital, Farnhurst, when the accompanying Röntgen picture was made, showing conclusively that the case was one of fracture, and that the apposition of the parts was perfect.

\* Read before the Society of Alumni of Bellevue Hospital, April 1, 1896



The fracture itself is not an extraordinary one, but it is of some satisfaction to the medical profession to know that we have at our hands an apparatus that will aid us when we are in doubt, especially in cases when an error in diagnosis is liable to be disastrous—as is so often the case in fractures in and around this intricate part of our osseous system.

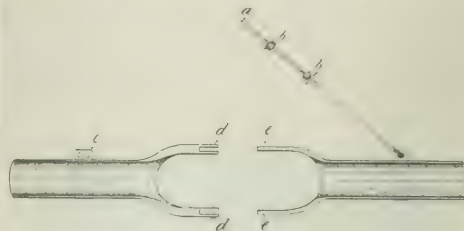
## THE TREATMENT OF FRACTURES AND DISLOCATIONS OF THE ELBOW JOINT.

A NEW SPLINT.

By E. Z. BOWER, M. D.,  
PHILADELPHIA, PA.

PROFESSOR S. D. GROSS has said "I know of no fractures or dislocations which I approach with more doubt and misgiving than those of the elbow joint. I know of none more liable to be followed by severe inflammation, effusion, ankylosis, and deformity. Even in the most simple forms, where the treatment has been skillfully conducted, there is great risk of an unfavorable result. At all events, a long period of time will be sure to elapse before there will be anything like good use of the articulation." In speaking of treatment, Professor Gross says: "Passive motion is to be commenced at the end of two weeks." In consulting the works of Erichsen and Hamilton and the late and exhaustive work of Dennis on *Surgery*, the teaching is found to be the same in regard to passive motion. The teaching of the *American Text-book of Surgery*, however, is quite different. In treating of fractures involving this joint, this authority states that daily forcing of the joint is more likely to do harm than good. In treating of dislocations, the same authority again states that passive motion to prevent ankylosis is not required and is likely to do harm. The cause of ankylosis and deformity in this class of injuries is the pouring out of callus and formation of adhesions. Early forcible motion of the joint will cause some slight movement of the broken fragments and a restripping up or stretching of the torn periosteum and ligaments, with an increased outpouring of callus. Certainly any one who has used passive motion in such injuries has not failed to notice the increased inflammatory symptoms following extensive or forced movement, which plainly indicate that something unfavorable to rapid recovery and injurious to final result has taken place inside the joint. On the other hand, to make no motion at all would be to allow the callus thrown out after the primary injury to undergo bony formation and obstruct movement, and to invite extensive and strong adhesions. The writer, being thus strongly opposed in front and flanked in the rear, was led to make use of an anterior splint with a hinge joint at the elbow, such as are commonly sold in the shops and recommended by teachers and authors. In one case in

particular, being a dislocation of both bones of the forearm backward, complicated by fracture of the coronoid process of the ulna and internal condyle of the humerus, the writer found that it was impossible with the ordinary hinged splint to bring the arm to an angle of less than ninety degrees, because of pressure being made in the bend of the elbow. This led to the improvising of the following (shown in cut) appliance, which removes all pressure from the joint, yet holds it firm, the elbow being free from dressings and fully exposed, so that any



displacement of fragments or untoward symptoms may be detected and rectified without removing the splint, while the forearm can be flexed to forty-five degrees and extended to a hundred and seventy; this being done in the course of each week by a few turns of the thumbscrews several times a day, the change taking place so gradually and continuously that the bony, ligamentous, and periosteal fragments are undisturbed and increased throwing out of callus is avoided, while that due to the primary injury is slowly broken up and as rapidly absorbed, as are also the adhesions, thus insuring a rapid and satisfactory result. The splint consists of two Y-shaped pieces of light wood united by the diverging arms of the first Y, or forearm piece, being inserted into the arms of the second Y, or arm piece. Each piece has fastened to it, with screws, at right angles, about three inches from the diverging arms, a piece of flat iron which projects an inch to the outside or left for left arm and right for right arm. The lower iron crosspiece has attached to its projecting end an iron rod ten inches in length, upon which a thread is cut throughout, and not for a part of its length only, as the cut shows. The upper iron crosspiece has an oblong opening in its projecting end through which the rod is inserted. Two thumbscrews, one anterior, the other posterior to this, hold it firm and allow the angle to be changed at will.

**The Use of Salophene in Chorea.**—Dr. Luigi Cappelleri (*Riforma medica*, 1896, No. 129; *Therapeutische Wochenschrift*, July 19, 1896) reports a case of chorea minor following influenza in a girl, eleven years old, with nervous tendencies. She could not take Fowler's solution, because it deranged her digestion. Salophene was given in doses of five grains six times a day at first, subsequently increased to seven grains. This was continued for ten days without digestive disturbance. As the chorea had become mitigated, the doses were then reduced to what they had been at first and given for ten days more, at the end of which time the chorea showed itself only on attempts at voluntary movement of the arm and soon disappeared entirely.

## TWO CASES OF TRAUMATIC ANEURYSM TREATED BY LIGATION AND EXTIRPATION OF SAC.\*

1. FEMORAL (ARTERIO-VEINOS).

2. DORSALIS PEDIS.

By JOHN T. HOWELL, M.D.,

NEWBURGH, N. Y.

I AM somewhat tardy in reporting the following histories of two cases of traumatic aneurysm; but they have seemed to me to be sufficiently unique to merit your attention; and the time elapsed makes their recurrence the less probable and the records complete:

**CASE I.**—C. S., aged thirty-six years, a carpenter. On October 5, 1894, while standing with his right foot upon a chair and endeavoring to cut out a pasteboard pattern, which was resting upon his thigh, he accidentally stabbed himself there with the small blade of the jack-knife he had been using.

A stream of blood spurted from the wound, which was over the course of the femoral vessels and nearly halfway down the thigh. He became faint, but the hemorrhage was checked by means of a tight bandage applied by some member of his family, and when Dr. Brownell, of Walden, saw the case soon afterward the bleeding had entirely ceased.

The bandage was left in place until the next morning, when, upon its removal, no hemorrhage followed, and there was no evidence of subcutaneous bleeding. A dressing was applied, and the patient told to keep quiet in bed. He, however, walked about some during the following three days, and then began to have pain and considerable swelling in the region injured. The doctor was again called and then detected signs of aneurysm. Firm pressure was kept applied for a week without controlling its growth.

On October 17th I first saw the case with Dr. Smith Ely, of Newburgh, and the diagnosis of traumatic aneurysm was readily confirmed in the large, pulsating, expansive tumor felt with its thrill and bruit. These symptoms were controlled by pressure upon the femoral artery above.

A tourniquet having been applied, an incision was made down to the sac, much of which had formed outside the vessels by means of the surrounding soft parts and new connective tissue. In size it nearly equaled a large orange. The clots with which it was filled having been removed, it was found that the femoral artery and vein had both been perforated by the stab wound at about the junction of the upper and middle thirds of their course, where the vein lay behind the artery. As the vein had also been perforated and was dilated, it was decided to ligate both of the vessels above and below, and excise the intervening portions with the rest of the sac. Silk ligatures were applied and all but the most adherent portions of the aneurysms dissected out. The wound was then partially sutured and packed with iodoform gauze.

The usual dressing having been applied and the limb enveloped in cotton, it was kept elevated and surrounded by hot bottles. The circulation remained good and after forty-eight hours the heat was gradually withdrawn. No unfavorable symptoms followed and by the

fourth week the wound had fully healed. Since that time the patient has experienced no circulatory or other disturbances as a result of the operation and has continued in good health.

**CASE II.**—F. W., aged thirty-four years, flagstone layer (blind). This accident occurred July 12, 1895, by means of a crowbar falling a distance of three feet and striking the instep of his right foot. At first he experienced a great deal of pain, and after walking a little way removed his shoe and found considerable swelling. Next day he was able to walk about some, but finally called in a physician. When I first saw the case, ten days later, examination showed a tender, slightly reddened swelling of the instep and outside of the ankle, which did not prevent walking about the house. No expansive pulsation or sign of aneurysm was then detected. Bandaging and rest reduced the swelling somewhat; but this became irksome and the patient tried again to use his foot. This increased the swelling and pain, and rest was again enjoined, with some encouragement for a couple of weeks, when the swelling began to grow much larger and slight expansive pulsation was felt which could be controlled by pressure upon the anterior tibial artery above. The tumor was of a fusiform shape, extending along the course of the dorsalis pedis artery for two inches and a half below the annular ligament. The bruit was plainly distinguished and there was a noticeable increase in temperature over the swelling.

The increase in size of the tumor was plainly seen day by day, and on August 15th it was decided best to operate.

An incision was first made, thoroughly exposing the aneurysmal sac, which had been almost entirely formed of the walls of the dorsalis pedis artery and extended fully up to and beneath the annular ligament. A ligation was accordingly made of the anterior tibial artery, in its lower third, which entirely controlled pulsation of the aneurysm. Another ligature was applied to the dorsalis pedis below the aneurysm, and all but the most adherent portions of the sac dissected out. In cutting away its upper part an artery of considerable size was wounded and bled very freely. This vessel lay on the outer side of the proprius pollicis tendon, just beneath the annular ligament, and apparently ran across the upper neck of the sac. It was noticed that pressure upon the posterior tibial artery controlled the bleeding, and the vessel was supposed to be an enlarged anastomotic branch.

A half-inch incision into the lower edge of the ligament was necessary before the vessel could be secured. The wound was partly sutured and packed with iodoform gauze, and then the usual dressings and a splint were applied. The iodoform strip was removed within forty-eight hours, and the wound was completely healed in about two weeks. Recovery was uneventful, and no after difficulties arose.

The man, although blind, is still laying walks.

**Ohio Midwives.**—"The Ohio Medical University has a department of midwifery, the curriculum of which extends over a period of two years, and includes instruction in anatomy, physiology, chemistry, materia medica, embryology, obstetrics, diseases of pregnancy, diseases of infancy, therapeutics, bacteriology, and clinical obstetrics. This is a move which the city of New York might do well to take cognizance of, with a view to the inauguration of a system of obligatory instruction for its large numbers of uneducated and ill-trained midwives."—*American Medico-Surgical Bulletin*.

\* Read before the Society of Alumni of Bellevue Hospital, April 1, 1896.

# DISCUSSION OF PULMONARY HÆMORRHAGE. ÆTIOLOGICAL AND PATHOLOGICAL CONDITIONS.\*

By R. J. CARLISLE, M. D.

THE diseases or conditions in which pulmonary hæmorrhage may possibly occur are so many and varied, and many of them so rare, that it seems to me impracticable to do more than mention many of them.

A discussion on pulmonary hæmorrhage (I mean a discussion of a practical kind) does not include a consideration of hæmorrhage in general, or of those general blood states, whether congenital or acquired, in which hæmorrhage from any or all mucous surfaces is apt to occur. When we recognize the fact that, in the vast majority of cases if not in all, the pathological changes leading to pulmonary hæmorrhage are either in the line of arterial or venous hyperæmia or of degeneration or destruction of the walls of the blood-vessels, and furthermore, that these conditions are found in those few diseased states to which the greatest number of cases of pulmonary hæmorrhage may be referred, it seems that a discussion limited to hæmorrhage in these cases will serve every useful purpose.

Pulmonary hæmorrhage is not always accompanied by hæmoptysis, but it is so accompanied in the majority of instances. Hæmoptysis, in its proper restricted sense, refers to hæmorrhage from the smallest subdivisions of the bronchial tree or from the lung tissue itself.

To narrow the discussion to practical limits, therefore, it may be said that pulmonary hæmorrhage is most frequently due to tuberculosis, or to cardiac disease, in conjunction sometimes, in either case, with distinct changes in the coats of the blood-vessels; or this latter condition itself may be the principal predisposing cause. A special exciting cause may or may not exist.

In cases in which tuberculosis is the responsible condition, many times hæmoptysis precedes the onset of other diagnostic symptoms, or, indeed, of any symptoms, by a variable length of time, and may in other instances be immediately followed by cough, dyspnoea, and rise of temperature. What relation does the hæmorrhage bear to the tuberculosis? What is the source? The hæmorrhage may come from the capillaries or the arterioles of the bronchial or pulmonary arteries, the blood extravasating into the bronchioles and alveolar passages. It is in the walls of these bronchioles and alveolar passages that the tuberculous changes usually first begin; and while in the midst of the tuberculous new growth the vessels are finally obliterated, yet early in the process the changes in the vascular walls admit of hæmorrhage either by diapedesis or by actual rupture. Or the hæmorrhage may come from the vessels immediately surrounding the diseased mass, in areas of collateral hyperæmia, whether this hyperæmia is inflammatory

in origin or due to the increased pressure produced by the obliteration of vessels above referred to.

Another condition which may be present, either alone or in conjunction with these, is ulceration and destruction of arterial twigs by a caseating process extending from a diseased bronchial gland.

The pathological changes above enumerated in many cases cover so small an area that it is not possible to discover them by physical signs or by any symptoms either local or general.

The amount of blood lost is usually not large. It fills the air-passages in the immediate vicinity, and the major part is usually immediately expectorated, what remains being discharged in the form of clots during the course of the next few hours or days. Usually, therefore, no changes, or very slight changes, are produced in the surrounding lung tissue by the extravasated blood; even if some remains it is disintegrated and absorbed. However, inflammatory changes in the form of a broncho-pneumonia may supervene in the infiltrated lung tissue which, in turn, goes on to caseation, and the tubercular process is further advanced.

It is well known that cases in which hæmoptysis occurs early usually do well—better, in fact, many times, than cases in which this symptom has not occurred. Perhaps the fact that following an hæmoptysis the bacilli are markedly diminished or even absent from the sputum for some time may explain the slow advance of these cases.

The cases of hæmoptysis which are said to be innocuous in that no further symptom of related disease ever arises—cases which are stated by some to be of no significance—may here be referred to. No case of hæmoptysis should be looked upon as without significance; even when unaccompanied by other signs, it should never be considered otherwise than as a serious symptom. It loses its significance only after the lapse of years of freedom from symptoms. Should hæmoptysis occur in the case of any one of us, no matter how good the state of health might at the time apparently be, it would be considered by that one as of very great significance. And, furthermore, any life-insurance examiner in considering the question of placing a risk on the life of such a patient, even if he is able to find no evidence of tuberculosis or cardiac disease, if he accepts the risk adds a little something to the premium to make sure, and he is justified in so doing.

In a case of unaccompanied hæmoptysis, as between tuberculosis and cardiac or vessel disease, the younger the patient the more likely is it to be due to the first, and, on the contrary, the older the patient at the time of its first occurrence, the more likely is it due to cardiac or vessel disease. And, further, the longer the time that has elapsed after the date of the hæmoptysis, without recurrence, the more probable is it that it was due to tubercular disease and not to either of the other causes.

\* Read before the Society of Alumni of Bellevue Hospital, April 1, 1896.



In endeavoring to determine the actual significance of hæmorrhage in these cases, in addition to the matter of time, the two symptoms that should receive the first attention are cough and dyspnœa, however slight.

To return to tuberculosis: pulmonary hæmorrhage, occurring after the onset of other symptoms of pulmonary disease, is due in the vast majority of cases to the like pathological conditions. In rapid tuberculosis it is very infrequent; it may occur, however, even in the acute ciliary variety. In caseating pneumonia, with rapid cavity formation, it has, as a rule, the same features. It is said to be rarely the result of the excavating process; perhaps, as Rasmussen declared, because going along with this process is the obliteration of the blood-vessels.

Pulmonary hæmorrhage, however, is not infrequently present in the chronic type after the development of cavities. Rasmussen, who was one of the very first to demonstrate the source of hæmorrhages in many of these cases, believed that the blood came from cavities with rigid walls, which were due in part, at least, to bronchiectasis. It is in these cases that the largest hæmorrhages occur, sometimes proving fatal. They are due to the rupture of arteries running in the bands of connective tissue across the cavity, or to small aneurysms in the cavity walls. In several of the cases reported by Rasmussen, in his first papers concerning these aneurysms (*Edin. Med. Jour.*, vols. xiv and xv), there were degenerative changes in the branches of the pulmonary artery, in the proximal part of it, and in all of them he demonstrated to his own satisfaction that the dilatation was due to narrowing of the artery beyond the aneurysm by contraction of tissue and destruction of vessels, thus increasing the blood pressure and also the lack of support to that side of the vessel wall which presented toward the centre of the cavity. The opening in the arterial wall in every case was valvelike, this explaining the gradual loss of blood in some cases. Rasmussen thought all the cases of hæmorrhage in chronic ulcerative tuberculosis, or, at any rate, all the fatal cases in which the loss of blood is great, are due to these aneurysms, and that these were not always found because of the failure to look carefully enough, and reports an autopsy to show that on first view, because of the presence of cavities in which there was no blood, the hæmorrhage looked to be bronchial in origin, yet, after several sections, a cavity was found near the apex of the lung, posteriorly, of small size, inclosing a small aneurysm. Pulmonary hæmorrhage is rare in cases of tuberculosis in children, and particularly under the age of seven years. This is explained in part by Rasmussen, by the fact that bronchiectatic cavities are rare in the varieties of pulmonary tuberculosis seen in children, the cavities due to destruction of lung tissue being unaccompanied by hæmorrhage in a child, and another reason for this infrequency of hæmoptysis may be that children, as a rule, do not expectorate. Instances of hæmorrhage in chil-

dren described in the literature are, as a very general rule, profuse.

Pulmonary hæmorrhage is a result of those changes in the heart which obstruct the flow of blood through the lungs, or permit of the formation of thrombi in the right auricle or ventricle. It usually gives rise to hæmoptysis.

It is due in the majority of cases to valvular lesions and their concomitants, and usually to mitral lesions. It occurs earlier and more frequently in connection with mitral stenosis than with any of the others. Myocardial degeneration and pericarditis may give rise to it. The latter disease may bring it about by pressure put upon the left auricle in cases of large effusion of liquid, or by the effects upon the heart muscle of the adhesive form. Hypertrophy of the right heart in conjunction with obliteration of pulmonary capillaries, as found in primary emphysema, may give rise to it, and hæmoptysis is therefore seen in some cases of that disease.

Hæmoptysis is, in cases due to cardiac difficulty, small in amount, and it is apt to recur at frequent intervals. There may be a considerable number of capillary hæmorrhages without hæmoptysis.

The pathological conditions present in these cases giving rise to hæmorrhages are: brown induration of lung, hypostatic congestion, and hæmorrhagic infarctions. Hæmorrhagic spots, occurring throughout the lungs in these cases, are ascribed by some to embolic effects. Hamilton (*Liverpool Med.-chir. Jour.*, 1883, vol. iii, No. 5) denied that they were embolic in origin but purely hæmorrhages from bronchial or pulmonary radicles, even when the areas filled with blood are wedge-shaped. He maintained that this shape was due to the filling up of a whole lobule with blood, and that lobules near the pleural surfaces always would be wedge-shaped when filled with blood, and that these areas when near the root of the lung were never wedge-shaped; and, further, that it was unreasonable to suppose that so many emboli would be set loose at one time as would account for the number of so-called infarcted areas.

Pulmonary apoplexy is a term used particularly by French writers, and others following them, rather indefinitely, but should be restricted to that condition due to a large hæmorrhage into the structure of the lung, destroying the parenchyma over an area varying in extent, and which may involve a whole lobe, such as may follow, for example, the rupture of a thoracic-aortic aneurysm into the lung directly. Hypostatic congestion of the lung and the pouring out of blood into the pulmonary spaces, with or without rupture, occurs often in connection with brain and cord injuries, and may be accompanied by hæmoptysis, though rarely.

Degenerative change in the blood-vessel walls has been shown to be an element in tubercular cases sometimes, and also in cardiac cases. It may of itself be the predominant cause. Arteriosclerosis affecting the pul-

monary artery is not frequently seen, perhaps, because it is rarely looked for. A few years since (1889), Sir Andrew Clark reported some cases of recurring hæmoptysis in patients over fifty or sixty years of age, afflicted with arthritic change, and whose lungs showed the signs of emphysema, in which, on autopsy, there were found in and near the hæmorrhagic areas marked patches of senile emphysema, and on microscopical examination the pulmonary capillaries leading to these parts were found to be degenerated, no other cause for hæmorrhages being present.

To refer to some of the infrequent causes of hæmorrhages: Bronchitis is sometimes accompanied by hæmoptysis, particularly that infrequent form, the fibrinous variety. The casts of tubes should be differentiated from the coagula of blood, which may simulate them. The fact remains that bronchitis, when accompanied by tubercular changes is more apt to be associated with hæmoptysis than when not so accompanied.

Malignant disease and hydatid disease of the lung also are causes giving rise to somewhat characteristic forms of hæmoptysis. This latter disease is said by Germain Sée to give rise to blood spitting as frequently as tuberculosis itself; but this disease has a limited area of distribution.

Hæmoptysis may be a vicarious hæmorrhage. Several well-authenticated cases are on record. This form may occur during the amenorrhœa of pregnancy and lactation, and cease when the normal flow is re-established.

Various exciting causes of hæmoptysis might be referred to were there time—such as excessive exertion, coughing, public speaking, etc. In the predisposing conditions of pulmonary hæmorrhage recited above, the immediate cause may be some such circumstance as one of these.

In mountain-climbing hæmoptysis is sometimes seen, and said to be due to the rarefaction of the atmosphere. Certain it is that it needs much less exertion to act as an exciting cause when the exercise is combined with a changing atmospheric pressure. The hæmorrhages which occur in caisson disease result from a too rapid change from a high pressure to a low one.

## THE TREATMENT OF PULMONARY HÆMORRHAGE.\*

BY JOHN WINTERS BRANNAN, M. D.,  
PHYSICIAN TO BELLEVUE AND THE WILLARD PARKER HOSPITALS.

THE subject assigned to me this evening covers so broad a field that I shall not attempt to deal with it exhaustively, but shall limit myself to certain general considerations. Hæmorrhage from the lungs takes place in a large number of diseases and pathological conditions, but it is chiefly in connection with pulmonary

tuberculosis and obstructive disease of the heart that it calls for active therapeutic measures on our part. Many forms of hæmoptysis do not require special treatment, and in all varieties direct treatment of the hæmorrhage should be promptly followed by treatment of the disease to which it is due.

In hæmoptysis occurring in pulmonary tuberculosis the general indications for treatment are evident. The bleeding comes either by diapedesis from the smaller vessels of the bronchial or pulmonary mucous membrane, or by rhexis from a ruptured or eroded branch of the pulmonary artery. The former condition is probably the source of the hæmoptysis which occurs early in the disease, when there may be no physical signs whatever in the chest. It is customary to speak of this form of pulmonary hæmorrhage as bronchorrhagia, and to ascribe it to a congested area of the bronchial mucous membrane. There is, however, so far as I know, no clinical or pathological evidence to prove that such a localized congestion of the respiratory tract ever takes place, unless there is also an acute inflammatory process present. And yet it is not very uncommon for hæmoptysis to occur in an individual who experiences not the slightest sense of discomfort in the chest, either before, during, or after the event. How, then, are we to account for the hæmorrhage? I believe that pathology furnishes us with an explanation that is sound, and that also explains the ominous significance of the occurrence. According to Delafield and Prudden,\* "Hæmorrhage by diapedesis usually occurs in the smaller veins and capillaries, all the elements of the blood passing out through the cement substance between the endothelial cells. Although no marked morphological changes have as yet been detected which explain this extravasation, it is probable that some change in the nutrition of the walls does occur which renders them more permeable." Ziegler† also states that "under pathological conditions the cement substance between the endothelial cells [of the vessel walls] becomes softened and permits the passage of the red blood-corpuscles." This nutritive change in the walls of the vessels, which permits the extravasation of blood, is, to my mind, only a part of the general lowering of nutrition of the whole organism, by which it becomes less resistant to the invasion of the tubercle bacillus. The hæmoptysis in itself is but a symptom, a warning of the danger which is threatening the individual. This view of the occurrence would explain the rarity with which the hæmorrhage itself results seriously, and also the frequency with which it is followed by the development of tubercular phthisis if its significance is not understood and acted upon.

The foregoing hypothesis also accords with another clinical fact which has been noted by Flint and other observers of large experience with pulmonary tuberculosis,

\* Read before the Society of Alumni of Bellevue Hospital, April 1, 1896.

\* *Pathological Anatomy and Histology*, fourth edition, p. 58.

† *General Pathology*, p. 135.

After an analysis of one hundred and seventy-nine cases of phthisis in which the presence or absence of hæmoptysis was recorded in the histories, Flint concludes as follows: \* "It thus appears that cases in which hæmoptysis occurs show a larger number of recoveries and a notably greater proportion of instances of arrest and tolerance than cases in which hæmoptysis does not occur. Under this aspect, therefore, bronchial hæmorrhage is to be regarded as a favorable event." Again, he says: † "Moreover, it is to be borne in mind in this connection that the chances of recovery, arrest, and notable tolerance in cases of tuberculous disease, as our clinical studies have shown, are greater when hæmoptysis occurs than when this event is wanting." Flint contents himself with thus expressing his opinion of the prognostic import of hæmoptysis and does not offer any explanation of the facts upon which his opinion is based. If our view of the pathology of the hæmorrhage is correct, there would seem to be a twofold cause for the comparatively favorable course of these cases. Regarded as the first recognized symptom of the threatened invasion of tuberculosis, the hæmoptysis should often justly be assigned to the pretuberculous period of the disease. Tubercles may already exist in the lungs, but in many cases they apparently are not present, as shown by the lack of further symptoms or physical signs. Our treatment, therefore, of such cases is really preventive in its character, in that it anticipates and checks in its incipency the development of the disease. When, however, hæmoptysis is wanting, the pulmonary process is usually well advanced before our attention is attracted by the less striking symptoms, such as cough, expectoration, and loss of flesh and strength. The lungs being already the seat of tuberculous deposit, our therapeutic measures meet with but partial success. A second reason for the effectiveness of our treatment of cases characterized by hæmoptysis lies in the fact that it is apt to be more thorough. Bleeding from the lungs is such an alarming occurrence that the patient as well as the physician needs no argument in favor of prompt and radical action. Our advice, therefore, is not only given at a time when it can accomplish the greatest good, but it also usually meets with ready acceptance on the part of the patient and his friends.

The treatment of this form of hæmoptysis follows from what has been said of its ætiology. The hæmorrhage itself usually requires little direct treatment beyond rest in bed for a few days, with restricted diet, and opium, if necessary, to relieve cough and allay excitement. As soon as the danger of a recurrence of the bleeding appears to be over, all possible measures should be employed to fortify the patient against the development of tuberculosis. A complete change of surroundings is usually required, at least for a time. The patient should take up his residence in a climate which will allow

of his passing a large portion of the day in the open air. If this is impossible, he should be instructed to practise respiratory exercises for the purpose of deepening the breathing and thus improving the pulmonary circulation. The exercises should be especially designed to expand the apices of the lungs. The tubercle bacillus does not thrive in organs which are in full functional activity and whose tissues are nourished by a constant and vigorous blood supply. These respiratory movements not only increase the capacity of the chest, but also have a marked effect upon the general nutrition of the patient. Deeper and fuller breathing leads to increased oxygenation of the blood. The appetite and digestion are improved, and the patient is enabled to assimilate more food. I have seen patients take with benefit four to five glasses of milk a day, in addition to three good meals, under the stimulating impulse of these so-called pulmonary gymnastics. Strychnine, iron, cod-liver oil, and other tonics are all of value in these cases, but I desire to lay especial stress upon the hygienic treatment. If the above measures are faithfully and persistently carried out, the patient will often have no further symptoms of pulmonary disease and the initial hæmoptysis may indeed "be regarded as a favorable event."

Hæmorrhage by rhexis, from a perforated artery, usually takes place at a time when the tuberculous lesions in the chest are more or less advanced. It demands, as a rule, much more energetic treatment than the form just considered. Our first aim is to quiet the action of the heart and to lower the blood pressure in the pulmonary circulation as much as possible. Absolute rest in bed must be enforced, with avoidance of conversation and all excitement. A hypodermic injection of morphine at this time promotes calm of both mind and body. If the pulse be full and strong and the hæmorrhage profuse and persistent, ligatures may be applied to the four extremities to prevent the blood reaching the pulmonary circuit. Other means to accomplish the same end will readily suggest themselves, such as the employment of purgatives and emetics. The induction of vomiting seems rather a heroic measure, but it will often stop a hæmorrhage most effectually. The food should be cold and taken in small quantities at frequent intervals to attract blood to the alimentary canal.

Of the direct cardiac sedatives I have always preferred aconite. Physiological experiment and clinical evidence unite in its favor. Andrew \* has shown in the Harveian oration of 1890 that in animals aconite produces a fall in the pressure in the pulmonary artery. Although pulmonary vasomotor nerves have never been demonstrated in man, it is probable that they do exist. At all events, judged by its effect in hæmoptysis, it would seem that aconite acts upon the pulmonary circulation in man in a manner similar to its action in animals.

Nature's method of stopping hæmorrhage is by

\* *Phthisis, a Series of Clinical Studies*, p. 107.

† *Loc. cit.*, p. 114.

\* *Brit. Med. Journal*, 1890, vol. ii, p. 942.



coagulation of the blood at the point of bleeding. The blood of tuberculous patients is, however, watery and deficient in clot-forming elements. We have recourse, therefore, to remedies which are believed to increase the coagulability of the blood. Among the drugs recommended for this purpose, my own experience is in favor of gallic acid. Wood has called attention to the greenish hue of the blood expectorated after gallic acid has been taken, thus proving that the drug does reach the circulation. As the hæmorrhage often ceases of itself if the patient remains at rest, it is difficult to determine whether or not our remedies have had any agency in bringing about the desired result. I recall one case, however, in which gallic acid apparently had a marked hæmostatic effect, in spite of the fact that the patient continued at his work.

The case is that of a postman with consolidation at the apex of the left lung, who suffered with rather free hæmoptysis from time to time. He did not wish to give up his occupation, and had tried ergot and other remedies without relief from the spitting of blood. I gave him gallic acid in ten-grain capsules, and he reported later that the hæmorrhages were always promptly checked by its use. This was two or more years ago. I saw him a few weeks since, going his rounds and blowing his whistle, and he told me that the capsules never failed to serve their purpose.

Of all the drugs employed for the relief of hæmoptysis ergot is probably the one in most universal use. I have given it myself in almost every case of internal hæmorrhage that I have been called upon to treat. Its value is, no doubt, dependent upon its power of contracting the small blood-vessels. Inasmuch as ergot produces a decided rise in the blood pressure objections have been raised to its use in pulmonary hæmorrhage. It has also been urged that as the bleeding vessel is generally more or less diseased, it can not respond to the contractile force of the drug, which is expended upon the sound arteries of the body, which it should be our aim to relax and keep full of blood. These objections would seem fatal to the usefulness of ergot in hæmoptysis, were it not that clinical experience furnishes overwhelming evidence in its favor. All observers have seen the hæmorrhage cease almost immediately after a hypodermic injection of ergotine. Undoubtedly in many cases it fails to arrest the flow of blood; probably, in these cases, the walls of the affected vessels have lost all power to contract. When, however, the ruptured artery still contains muscular tissue, the vaso-contracting effect of ergot appears to be greater than its action in raising the blood pressure.

There are many other remedies recommended for the treatment of hæmoptysis, but as this paper does not profess to be complete, I shall not even enumerate them. Aconite, morphine, ergot, and gallic acid respond, in my opinion, to all the indications which we can hope to meet by means of drugs.

When the hæmorrhage has definitely ceased, the hy-

gienic measures already described should be put in force. So long as fever is present, the patient should remain at rest, but not necessarily in bed. I am convinced that patients are often kept in bed much beyond the time when a renewal of the hæmorrhage is the chief danger to be feared. We should always bear in mind that an extension of the tuberculous process is favored by the sluggish circulation and imperfect chest expansion incident to a life of confinement. The patient should be taken out of doors as soon as possible. If his occupation has been of a sedentary nature, it should be changed for one involving an active life in the open air. A change of climate is absolutely essential in many cases, so as to completely do away with the conditions under which phthisis was acquired. Years will probably elapse before the disease can be regarded as cured, or even permanently arrested.

The treatment of the hæmoptysis which occurs in disease of the heart does not call for extended consideration. This form of hæmorrhage is the result of thrombosis or embolism of a branch of the pulmonary artery. It is most common in mitral disease, but may occur whenever from any cause the blood current in the pulmonary artery is feeble or the circulation in its branches is impeded. The pulmonary arterioles are non-anastomosing terminal arteries, and if one of them is obstructed by a thrombus or an embolus, the tissues of the affected region are deprived of their blood supply and undergo degenerative changes. In the absence of pressure from the side of the pulmonary artery, a reflux flow of blood from the veins takes place and the capillaries are again gradually filled with blood. According to Litten, the refilling of the capillaries is at least partly due to an inflow of blood from neighboring unobstructed arterioles. The blood from the adjacent vessels is, however, under very low pressure, which is not sufficient to establish a current through the obstructed area into the veins. The blood therefore stagnates, the capillaries become overfilled, their walls suffer in their nutrition, and permit the escape of blood into the surrounding tissues. A hæmorrhagic infarct is thus formed and hæmoptysis readily occurs. Owing to the low blood pressure, the effused blood tends to clot and the hæmorrhage usually ceases if the patient remains at rest. After a proper period of rest in bed, the indication is to strengthen the action of the heart to prevent thrombosis in other vessels with a recurrence of the hæmorrhage. Strychnine, digitalis, and other cardiac tonics should be prescribed, and all measures taken to improve the nutrition of the patient. The general treatment, in fact, should be sustaining, as in the case of the early hæmoptysis of tuberculosis.

**The Woman's Medical College, of Baltimore.**—We learn that Dr. Edward N. Brush, superintendent of the Sheppard Asylum, has been elected professor of psychiatry in the college.

## PRIMARY ERYSIPELAS OF THE PHARYNX.\*

By WILLIAM PORTER, A. M., M. D.,

ST. LOUIS.

ERYSIPELAS of the upper air-passages is rare—at least our recognition of it is rare—yet I can not but believe that more frequently than we know a true case, involving only the mucous membrane, may run its course without recognition.

My own experience with this type of disease in the respiratory tract is not great, and I find, in looking up the general and special literature, that the reported cases are exceedingly few. Only those cases have been cited in which there was an external inflammation some time during the course of the disease, and upon which the diagnosis was founded. Indeed, it is difficult to affirm a case to be erysipelas without cutaneous involvement, and for this reason the number of cases recognized is limited.

Again, the treatment often employed in many cases of acute pharyngitis and laryngitis is well adapted to erysipelatous disease, and it is possible that true cases are cut short, or successfully conducted as simple inflammations.

In a paper read before the association in 1880 (*Archives of Laryngology*, vol. i, No. 4) I reported two cases of primary erysipelas of the larynx. As this was before our proceedings were preserved in their present admirable form, I venture to briefly refer to these instances, and will add the history of a case of naso-pharyngeal erysipelas occurring within the last few weeks.

CASE I.—The earliest recorded case of which I have knowledge of erysipelas of the air-passages without cutaneous disease is one that came under my care years ago at the London Hospital. As the notes of this case were published in full by Mackenzie, in his work upon *Diseases of the Larynx, Pharynx, and Trachea*, they need not be repeated in detail. The main points in the case were:

A man, aged thirty-five years, laborer, was admitted to accident ward on account of fracture of the right internal malleolus. There was nothing unusual about the case for ten days; then there was some pain in the throat, with hoarseness and a little fever, which increased until, on the second day the temperature was 102°, hoarseness was marked, and there was some dyspnea.

The third morning he was transferred to a ward in my service and I saw him almost hourly. There was acute inflammation of the larynx with marked swelling of the ventricular bands. Dr. Mackenzie saw him on the third day. The inflammation had advanced upward, the epiglottis being now involved; it was infiltrated and eroded. There was also evidence of bronchial and pneumonic inflammation, but the dyspnea was so great that the changed respiratory sounds could not be well defined.

At midnight of the fourth day I opened the larynx. The patient lived forty-six hours after the operation, during which time a distinct friction sound made its appearance at the cardiac apex, and an erysipelatous flush

surrounded the tracheal wound. The notes of this case contain the first and, so far as I have knowledge, the only full record of an autopsy in primary erysipelas of the larynx. Without quoting them, I beg to refer to their publication as before cited.

The second instance occurred a few years later in a patient of Dr. Miller and Dr. Bond, of St. Louis, who asked me to see the patient, a merchant, aged twenty-six years, who had been exposed to erysipelas a week previous. The general appearance and symptoms were similar to those in the first case. Tracheotomy was done, the only result being to seemingly prolong life a few hours and render the condition of the patient easier. There was no autopsy.

In the third case, which has been but recently under my care, the larynx escaped, but the erysipelatous inflammation of the pharynx and nasopharynx was well marked. The patient, a prominent young business man of good habits and without knowledge of exposure, consulted me about four weeks ago, complaining of pain in the frontal region, fever, and great thirst. I found the turbinated region acutely inflamed, temperature 103°, pulse 130, tongue furred, and patient very nervous. He had, during the previous week, had pain in the back and in the larger muscles, and, at times, chill alternating with fever.

The next morning the pharynx was involved, and there was a well-marked characteristic flush over the external surface of the nose, extending well down to the cheek. The temperature was 104.5°, and the disease made rapid progress. The right Eustachian tube became involved, and, finally, the corresponding middle ear. Under a vigorous treatment with iron, and at times pilocarpine, with free insufflations of stearate of zinc and applications of ergot externally, the symptoms yielded, although there was the usual tendency to relapse. At this writing, May 1st, the patient is entirely well, except for a gradually diminishing otorrhœa.

These three cases in my own experience, as well as some others less well defined, have convinced me that some instances of acute laryngitis or pharyngitis are of erysipelatous origin. Clinically and bacteriologically the conclusion is a reasonable one. When the external evidence follows, the diagnosis is easy, but fortunately for the patient, though unfortunately for the classification, this is not always the case.

My thought in closing is, that where we have general symptoms, such as are common in erysipelas, with acute inflammation of the mucous membrane of the air-passages, with swelling and some edema, especially if the margin is well defined, we should suspect erysipelas, even if there is no cutaneous involvement.

[Since this was written my attention has been called to an interesting case of erysipelas beginning in the pharynx, and extending along the Eustachian tube, involving the right mastoid process. The report of this case, by Dr. L. T. Riesmeyer, is in the *Medical Review* for May, 1890.]

Board Examinations in Massachusetts.—“The recent examination of candidates for license to practise medicine in the State of Massachusetts resulted in the rejection of twenty-five out of one hundred and ninety-eight applicants. Sixteen out of the number rejected were not graduates in medicine.”—*American Medico-Surgical Bulletin*.

\* Read before the American Laryngological Association at its eighteenth annual congress.

## SEROPURULENT MAXILLARY SINUSITIS IN CHRONIC LEAD-POISONING.\*

By HENRY LEWIS WAGNER, M.D., PH.D.,

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FELLOW OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION;

HONORARY CORRESPONDENT

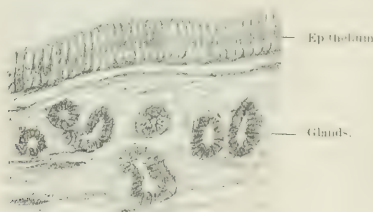
DE LA SOCIÉTÉ FRANÇAISE D'OTOLOGIE, DE LARYNGOLOGIE ET DE RHINOLOGIE.

THE advancement made in the study of aetiology in diseases of the nasal sinuses has greatly improved the methods of treatment. The results in this study are obtained not only by histological and bacteriological analyses, including post-mortem examinations, but also depend upon a careful examination of the whole system.

The following case fully illustrates the views on this subject:

H. M. (aged thirty-two years; occupation, carriage painter for twelve years; parents healthy) consulted me a year ago for severe neuralgia of the right supra-orbital region. These neuralgic pains had existed for three consecutive years, occurring daily at intervals of from one to twelve hours, and consequently the patient was obliged to relinquish all work. He was afflicted with hyperosmia, strong odors of any kind producing pain. Opium and various coal-tar derivatives were prescribed by his former physicians without any result, and the resection of the right supra-orbital nerve even failed to bring relief. All teeth in the upper jaw—some of them decayed and discolored—had been extracted, the source of trouble being located there, but no relief followed.

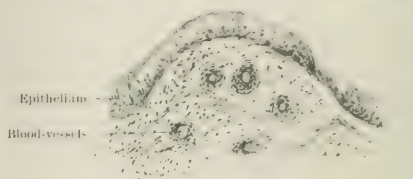
EXAMINATION.—Patient a well-built man, skin yellow in color, flesh lacking in firmness, no syphilis, eyes and ears normal, throat showed slight pharyngitis sicca. Nose: Left side normal; right, slight hypertrophy of the middle and lower turbinated bodies. At the entrance of the hiatus semilunaris a crust formed daily, which could easily be removed, and a slight seropurulent discharge, containing *Staphylococcus aureus* and a few non-pathogenic cocci, could only be observed every second



Normal antrum of H. M.

or third day. Face: Transillumination showed little difference between the two sides. No external swelling of face. Pressure on the supra-orbital region produced no pain. Mouth: Hypertrophy of the right upper gum; no blue lead line could be detected. Pressing upon the region of the right first molar produced severe neuralgic pain. This assured me that the cause of the trouble existed in the right antrum. Being unable to probe or irrigate the antrum through the hiatus semilunaris, I

entered the cavity through the hard palate under cocaine anæsthesia with the aid of a spearhead drill—this method, which is quick and painless, I employ frequently—and by injecting sterilized warm water a slight seropurulent discharge was observed coming from the right nostril. Shortly after the patient was somewhat relieved, and I decided to open the antrum through the canine fossa. This was accomplished under chloroform with a large trephine drill. The antrum showed in the lower and side walls a peculiar bluish-gray hypertrophy of the mucous membrane. Probing did not reveal any caries of bone, but touching certain places produced severe pain. Microscopical examination of the hypertrophy, made by



Seropurulent maxillary sinus in chronic lead poisoning.

Dr. D. Montgomery, showed "loose connective tissue infiltrated with much serum and a fair number of round cells of inflammation; the piece of tissue had a covering of columnar epithelium. There were some micrococci in the tissue." After thorough removal of the hypertrophied tissue, dry treatment with borated gauze gave no relief, and also other methods of treatment were unsuccessful. I then decided to examine the urine for albumin, sugar, and lead, none of which were found; but, on examining fresh tissue, removed from the antrum, I found with sulphide of sodium the characteristic lead reaction. I placed the patient at once under iodide treatment, and in a few days he was relieved of all pain; the seropurulent discharge then ceased, and with it the formation of crusts.

Traces of lead were now detected in the urine. The patient has steadily improved, and has remained ever since free from pain.

In this case we must assign the diseased condition of the antrum, including the neuritis of various nerves, to the deposit of lead, perhaps as an albuminate. Similar conditions have been observed in a few eye cases (Stood), where optic neuritis, accompanied by severe headaches, was produced by chronic lead-poisoning.

NO. 506 SUTTER STREET.

## NASAL SARCOMA CURED BY OPERATION.

By G. MELVILLE BLACK, M.D.,

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OWING to the rarity of this affection, and the still greater infrequency with which we find our efforts rewarded with success, I feel that it will be of interest that the case be reported in full.

On the 7th of April, 1894, Dr. McLauthlin, of this city, asked me to examine the nose of a patient of his

\* Read before the American Laryngological Association at its eighteenth annual congress.



who had been having some elevation of temperature that he was unable to account for.

I found Miss L., aged thirty-eight years, to be very weak and unable to sit up, and suffering from extreme frontal headache, with temperature of 101° F. She informed me that her fever had begun about ten days prior to my visit, and that at the same time the right side of her nose began to stop up, which resulted in complete occlusion in forty-eight hours. She was not aware of having had any nasal trouble before, although she had noticed for some time that the right side of her nose was not so free as the left, and that she had occasional nasal hæmorrhages, but could not say from which side they came.

The nose externally was slightly reddened, and very markedly enlarged on the right side, with extension of the redness and swelling to a less extent under the right eye. Pressure over any part of this area was painful. Protruding from the right anterior nares was a red and rather hard lobulated tumor, which bled upon slight manipulation. Inspection of the left nasal chamber showed the septum to be deviated toward the left so as to be in contact with the turbinated bodies. My advice was that the growth should be removed at once. It was impossible to say if the presence of this growth was alone responsible for her temperature and general physical condition. There was no question in my mind that its removal would be productive of benefit. A specific history could be eliminated beyond any question. Miss L. was removed to St. Luke's Hospital, where a more complete examination was made. Upon inspection of the post-nasal space it was found to be free, but the tumor could be plainly seen protruding from the right posterior nares. A view of the interior of the right side of the nose could not be obtained, owing to the growth filling that chamber so completely.

On April 8th she was etherized, and the cold snare used to remove as much of the tumor as it would engage. I first packed the right posterior nares to prevent the blood from running down into the air-passages. After removal of the growth, I found no trouble in passing my little finger into the nasal chamber and exploring the region of the middle turbinated body. I found this region still occupied by a very large mass of tumor. Hemorrhage was very moderate, so I introduced a strong sharp curette and thoroughly scraped this region. Hemorrhage was becoming pretty free, so I deemed it best not to attempt the removal of anything more. I then packed the entire right chamber with strips of iodoform gauze. This practically stopped the bleeding with the exception of a little oozing.

**APPEARANCES OF THE TUMOR.**—It was an inch and a half long, three quarters of an inch wide, by an inch high. Its general appearance was a dark red, mottled in places, with a rough surface, and quite firm to the touch. On its outer side there was a ragged hole about two millimetres deep by four millimetres in diameter, evidently a point of beginning ulceration.

**PROGRESS OF THE CASE.**—The nasal packings were removed at the end of twenty-four hours and replaced by a less amount, as the hæmorrhage was insignificant. From this time on she gradually gained in strength, so that at the end of a week she was able to pay me daily visits at my office. The temperature has been normal since the second day after the operation.

April 16th.—Removed another piece of tumor to-day, under cocaine anæsthesia, with the cold snare, from the posterior part of the middle turbinated body. Size of

piece removed, an inch long by half an inch wide in both its other diameters. It had the same general appearance as the first piece removed.

18th.—After cleansing the part, I removed a number of remnants of the growth with the cold snare and curette, under cocaine anæsthesia.

19th.—After thorough cleansing, I found what looked to be granulation tissue covering the middle turbinated body, and completely filling the middle meatus. This tissue I thoroughly cauterized with trichloroacetic acid.

May 1st.—The eschar from the cauterization came away to-day, leaving a perfectly clean middle turbinated body, with not a vestige of the growth to be seen anywhere. The nose looks normal externally, and the patient is free from all pain.

7th.—The part is still clean. No signs of recurrence. Considerable secretion accumulates and tends to form scabs in the middle turbinated region, unless it is cleansed several times a day.

12th.—Less secretion. Otherwise no change.

15th.—Her home is in New Jersey; she has only been here on a visit. She leaves to-night, not to return. She takes a letter to Dr. Charles H. Knight, of New York, and will consult him as soon as she arrives there on her way home. She carries with her two microscopic slides of the growth. The nature of it having been pronounced malignant, I explained to her that it would in all probability return, and that she must see Dr. Knight regularly, so that steps might be taken to do a more extensive operation if necessary. I was somewhat fearful that the maxillary sinus was involved, as a slight difference was noticeable on transillumination.

I have not seen Miss L. since she went home, but have heard from her, as well as from Dr. Knight, quite often. The reports have been that she has had no further trouble from any recurrence of the growth. Dr. Knight also wrote me that he had examined the slides sent him, and that there seemed to be no doubt, so far as the microscope went, that the growth was sarcomatous.

The following is a part of a letter received from Dr. Knight a few weeks ago, in response to a letter of mine inquiring after Miss L. preparatory to writing this report. He says: "As a matter of fact there is not much to say. You evidently made a clean, thorough job of it, since there has not been, up to the present time, the slightest evidence of recurrence. The patient has gained in weight, and improved very much in her general condition. She has severe headaches at long intervals, but no pain referred especially to the affected nostril. Since contracting a violent cold last fall she has had more or less catarrhal secretion. The accessory sinuses do not seem to be implicated, and the local condition may be considered satisfactory." Dr. Knight had examined Miss L. just a few days before he wrote this.

The report from the pathologist will complete the history of this case. The clinical appearance, together with the macroscopical and microscopical appearance of the growth, certainly warranted me in believing that I had to contend with a genuine sarcoma. Over two years have now elapsed, and there has been no recurrence of the growth. I have therefore felt that the ease with

which it was cured was due to a mistaken diagnosis. I shall leave you to judge if this should be recorded as a case of cured nasal sarcoma.

Warren, in his *Surgical Pathology*, says: "Sarcoma of the nasal passage is not a very rare disease. The round-cell and alveolar forms of sarcoma seem to be the prevailing types of growth. Fibrosarcoma and myxosarcoma are seen, and also angiosarcoma and melanosarcoma. The disease occurs as a pediculated tumor attached, with about equal frequency, to the outer and inner walls of the nasal cavity. The average age at which the disease appears is about forty years, and it is seen about equally in males and females. The disease does not appear to show the same malignant tendencies in the nasal passage that it does in other localities. Many of the reported cases were well, without recurrence, several months after the operation."

The following report is from the pathologist, Dr. H. C. Crouch, of the Medical Department of the University of Colorado:

Two sections stained with logwood and mounted in Canada balsam were submitted for examination. The external surface consisted of a single uninterrupted layer of delicate columnar epithelium. The bulk of the sections consisted of rather large, round, and oval cells, with a distinct nucleus and cell protoplasm. The stroma varied in the different parts, being more abundant with fewer cells in certain portions, and less marked in others. In parts the stroma showed a marked alveolar arrangement, including nests of the above-described cells. In other parts the alveolar arrangement of the stroma and cells was evident. In certain portions of the section where the cells had fallen out during the manipulation, a fine reticulum was visible, and in the alveoli described it was often possible to trace the fine fibrillæ penetrating between the cells. In accord with the foregoing appearances, a diagnosis was made of alveolar sarcoma.

In closing, I desire to thank Dr. Charles H. Knight for the reports he has made to me of the progress of the case. I desire to thank Dr. H. C. Crouch for his very accurate report of the microscopic appearance of the growth.

SEEDE BOOK.

## HYDROZONE IN GASTRIC AND INTESTINAL DISORDERS.

By JOHN AULDE, M. D.,  
PHILADELPHIA.

A PERIOD of nearly twelve years has elapsed since I first began the clinical use of hydrogen dioxide, generally referred to at that time as the peroxide of hydrogen. In 1887 I published a paper giving a detailed account of several cases in which it had been employed by inhalation, but even then I was thirty years behind the report of Dr. (now Sir) Benjamin Ward Richardson, of London, who had made a thorough investigation of its antiseptic, detergent, and healing properties. Notwithstanding the fact that this preparation had been known

to the medical profession for that length of time it had achieved little or no reputation. This, however, may be explained by the fact that the discovery preceded the dawn of bacteriology. Indeed, I was one of the early contributors to medical literature relating to the clinical value of this product, and since that time I have published a number of articles, embracing practically every application, both medical and surgical, to which hydrogen dioxide is adapted.

In the present communication it is my object to direct the attention of the profession to its special value in the treatment of gastric and intestinal disorders. In gastritis, for example, there is no antiseptic which can be given with so much benefit as this remedy, because its effect is immediate, and even in considerable doses it is absolutely harmless. The same is true in regard to its employment in typhoid fever, cholera infantum, and Asiatic cholera. In the latter disease its efficacy has been thoroughly demonstrated by a number of well-known physicians, and its applicability in cholera infantum is well known to those physicians who have given careful attention to the most modern methods in the treatment of this class of cases.

The following brief notes will be sufficient to indicate the availability of this remedy in the treatment of the disorders already mentioned, although, in view of the fact that hydrozone is a more concentrated product, and withal a permanent solution, this latter remedy should have the preference. It contains at least double the volume of nascent oxygen which has heretofore been the standard for the medicinal peroxide of hydrogen.

In gastritis, either acute, subacute, or chronic, we have to deal with an unhealthy condition of the lining membrane of the stomach. The inflammation is attended with an increased output of mucus, which seriously interferes with the normal functions of the peptic glands. By the introduction of a small quantity of hydrozone, in the strength of one part to thirty-two parts of boiled or sterilized water, this objectionable mucus is at once destroyed by the action of the oxygen which is released, and the contents of the stomach remaining are promptly discharged into the small intestine. A patient suffering from gastritis should take at least half an hour before meals from two to four ounces of diluted hydrozone (one to thirty-two) and lie on the right side so as to facilitate the action of the stomach in discharging its contents.\* The antiseptic properties of hydrozone thus used are sufficient to destroy the micro-organisms and leave the stomach in a healthy condition for the absorption of nutritive pabulum. All forms of fermentation are promptly subdued by the active oxidation resulting from the liberation of nascent oxygen. The patient is then in a condi-

\* In chronic cases with a large output of gastric mucus, and particularly in gastric ulcer, concentrated solutions are not well borne at first, owing to the formation of gas, but this difficulty disappears with the continued use of the remedy, and no treatment of gastric ulcer can be regarded as complete without the local employment of hydrogen dioxide or hydrozone.

tion to take suitable food, which should be nutritious and easily digested, liquids being preferred until the active symptoms have subsided. Later, small portions of solid food can be ingested, but all food stuffs of a starchy character must be thoroughly masticated, in order to secure the action of the salivary secretion upon the starch granules, breaking them up, and lessening the tendency to fermentation in the stomach. After taking a meal, a patient with gastritis should follow it with medicinal doses of glycozone, which contains, in addition to the nascent oxygen contained in hydrozone, a percentage of glycerin which favors osmosis and assists in re-establishing the functional activity of both the peptic and mucous glands of the organ.

In the treatment of cholera infantum, typhoid fever, and Asiatic cholera, the same general plan should be adopted in dealing with the stomach, always bearing in mind the necessity for having the patient remain in the recumbent position and on the right side for at least half an hour after the ingestion of the solution. In addition, however, to the preliminary treatment of the stomach, the same solution (one to thirty-two) is used as an injection into the lower bowel, care being exercised to insure its introduction as high up as possible. This can be managed by having the patient lie on the left side, with the hips well elevated, and the employment of a long, flexible rectal tube. In this manner we secure and maintain an antiseptic condition in both the stomach and large intestine, the importance of which will be understood when we consider the large number of micro-organisms which grow under these favorable conditions with such remarkable rapidity.

When deemed advisable, the solution introduced into the lower bowel may be combined with large quantities of either hot or cold water, which enables us to obtain the benefits of irrigation in addition to the antiseptic effects. These irrigations may be employed as frequently as deemed advisable by the medical attendant, but they will usually prove satisfactory if administered at intervals of four hours.

Although brief, it is believed this communication will prove serviceable to a large number of practitioners who have hitherto found serious difficulties in counteracting the mephitic influences of bacteria in this class of disorders, and the clinical virtues of the remedy being now so fully recognized, no one will hesitate to adopt the methods suggested, which may be conveniently carried out in addition to the usual routine treatment.

**The Marion Sims College of Medicine, of St. Louis.**—The following minute, prepared by a committee consisting of Dr. B. H. Hypes, Dr. R. C. Atkinson, and Dr. C. Parck, has been authorized by the faculty:

"Whereas, Dr. I. N. Love has found it incumbent on him to sever his connection with the Marion Sims College of Medicine, the members of the faculty of that institution embrace this occasion to express their appreciation of his past services and their hope that in all his future connections he will find both pleasure and profit."

## A CASE OF GONORRHEA COMPLICATED WITH DOUBLE EPIDIDYMITIS IN A BOY TWELVE YEARS OF AGE.

By E. S. COX, M.D.,  
GALVESTON, TEXAS.

It is very seldom indeed that his "Satanic Majesty" encounters one so young "prowling" about the premises of the "demimonde," and receiving admittance into the realms of that unholy sanctum, as was the case in the instance about to be recorded, and it is a sad commentary on those who follow prostitution as a profession (or means of livelihood) that one so young should be admitted into such a house. But worse than that—than all—that he should be the unlucky and unfortunate victim of a gonorrheal virus, with double epididymitis as a complication, which not only occasioned great suffering, but brought sorrow and mortification to his honorable parents.

L. M., the subject of this paper, twelve years of age, of medium size for one of his age (excepting the "offending member"), not especially precocious, closely watched by his scrupulously religious parents, and not allowed to associate with other boys, lest something damaging to his moral or spiritual welfare might result, consulted his grandmother about a "dreadful burning" in his penis when he made water, and she, thinking it a slight trouble, gave him some flaxseed tea and a few pills to move his bowels. The boy not improving under her treatment, I was called in, and found him in the following condition: His penis was inflamed and swollen; temperature, 102° F.; enlarged lymphatics; excruciating pain in the inguinal region; testicles immensely swollen; dysuria; bowels constipated. Owing to the epididymitis, there was almost complete cessation of the gonorrheal discharge, which subsequently recurred after the subsidence of the acute inflammation of the testicles.

He gave a connected history, after being assured that I would not divulge the secret, which clearly established the ætiology. The usual remedies which are indicated in such cases were prescribed. There is nothing in the case to attract attention but the tender age of the subject.

## A CASE OF BRAIN ABSCESS SECONDARY TO CHRONIC SUPPURATIVE OTITIS MEDIA. AND PRESENTING UNUSUAL SYMPTOMS. OPERATION. RECOVERY.\*

By GORHAM BACON, M.D.

E., a college graduate, thirty-two years of age, of strong constitution, was referred to me in December, 1895, by Dr. W. A. Bartlett, of this city.

The history of the case is that the patient had a chronic suppurative otitis media (left side) of at least fifteen years' duration, as a result of measles, and that during this time he has practically received no treatment for it. For some time past his friends have noticed that he has at times acted strangely and has complained occasionally of some pain in his head, but not sufficient

\* Read before the American Otological Society at its twenty-ninth annual meeting.



to keep him away from his business, which is that of editing an insurance journal. Four days ago he had very severe pain in the left ear and the discharge was very profuse. On December 5th he was visited at his home by Dr. Bartlett, who found that he had a temperature of 104° F., an intense headache, and marked pain in the ear. In the afternoon he had a general convulsion lasting twenty minutes, with violent muscular twitchings and frothing at the mouth. He was unconscious during the convulsion and for half an hour afterward. I had him removed at once to a private room in the New York Eye and Ear Infirmary, where I saw him that same evening, December 5th, at 9 P. M. At that time the temperature was 100° F., pulse 104, and respirations 26. He was perfectly conscious, but complained of severe headache. The auditory canal contained foul-smelling pus and granulations.

**OPERATION.**—The patient was etherized. Assisted by my colleague Dr. J. L. Adams, I made a long incision over the mastoid process down to the bone and close to the auricle. The bone was found very dense and the mastoid antrum was reached with much difficulty by means of chisels and gouges. The lateral sinus was slightly injured in chiseling, on account of its being out of its usual position, from which there was a copious flow of blood, so that it became necessary to plug the sinus with iodoform gauze. The external meatus was thoroughly curetted; the wound was washed with a bichloride solution and packed with gauze after the upper angle had been brought together with sutures. The patient rallied well from the operation.

**December 6th.**—Temperature normal this morning. He complains of thirst. He has complete facial paralysis of the left side, the nerve undoubtedly having been injured in the chiseling of the bone.

**7th.**—The fundus of each eye was examined by Dr. Gruening to-day and found normal. The patient is very comfortable and slept well, and the headache is much less. 6 A. M., temperature, 101° F.; 12 noon, 99°; 9 P. M., 101°.

**8th.**—Patient restless and confused, apparently aphasic, unable to ask for what he wants. He was seen to-day by Dr. M. Allen Starr. 3 A. M., temperature, 102.4° F.; 6 A. M., 100°; 1 P. M., 99°; 9 P. M., 102.2°.

**9th.**—The patient had a severe chill during the night lasting fifteen minutes, followed by profuse perspiration, with severe headache. He is markedly aphasic. The aphasia is chiefly of conduction, resulting in verbal amnesia. Urine contains a trace of albumin and one per cent. of sugar. 3 A. M., temperature, 104° F.; 9 A. M., 101.9; 12 noon, 101°; 6 P. M., 104°; 104.8° in the evening. Wound dressed.

**10th.**—Temperature lower. Patient less confused and more comfortable. Fundus of each eye normal. He was again seen by Dr. Starr and Dr. Gruening, and it was deemed advisable to explore thoroughly the lateral sinus, and if nothing was found there, to remove a button of bone over the temporo-sphenoidal lobe. 3 A. M., temperature, 101.9° F.; 11 A. M., 100.2°; 12 midnight, 102°.

**SECOND OPERATION.**—After ether was administered, assisted by Dr. Gruening and Dr. Adams, I again exposed the sinus, which was pulsating, and inserted a hypodermic needle in different directions, always withdrawing blood. The original incision over the mastoid was then carried an inch and a half upward and a horizontal incision was made forward for the same distance. A button of bone was removed with a trephine three quarters of an inch in diameter, the centre pin of the trephine

being placed at a point two inches above the centre of the external meatus. The dura was exposed and was found slightly bulging and pulsating. The opening in the skull was enlarged with the rongeur forceps in a direction downward and backward. In separating the thickened dura from the tympanic roof, to which it was adherent, pus was seen to exude. There was found, with a probe, an opening at this point in the dura, and half an ounce of pus escaped. A Y-shaped incision was made in the dura and I introduced my little finger (its whole length) in a direction inward, upward, and backward, and found a good-sized abscess cavity, but without any sac. More pus and broken-down brain tissue, of a very offensive odor, came away. Altogether there was at least an ounce and a half of pus. I then chiseled away the bridge of bone between the opening made with the trephine and the antrum, in order to secure as perfect drainage as possible. The external wound was irrigated with boric-acid solution, but the abscess cavity was not washed out. The latter was then loosely packed with iodoform gauze as well as the external wound and the whole bandaged. 3 A. M., temperature, 97.6° F.; 6 A. M., 102.6°; 9 A. M., 99°; 1 P. M., 98.4°.

**12th.**—The patient was restless during the night. Still confused and aphasic. The external dressings were removed, as they were blood-stained, and new ones re-applied. He takes his nourishment well. 3 A. M., temperature, 100° F.; 9 A. M., 99.8°; 9 P. M., 101°.

**13th.**—The packing was removed from the abscess cavity to-day for the first time, as there was more or less elevation of temperature during the early morning from 3 to 6 A. M. The pus was most offensive. I repacked the abscess cavity with iodoform gauze. He complained of severe pain afterward and was very drowsy, and on waking after deep sleep was very confused. At 7 P. M. he had a tonic convulsion, lasting a few minutes, followed by marked headache, at which time he did not seem to recognize any one. 3 A. M., temperature, 103° F.; 9 A. M., 98.4°; 9 P. M., 99°; 12 midnight, 101.4°.

**14th.**—Since yesterday he has had three severe convulsions and two lighter ones. At the dressing of the wound, about five drachms of thin pus escaped, and the patient had a slight convulsion during the dressing with unconsciousness for at least two minutes. 3 A. M., temperature, 97.2° F.; 9 A. M., 99°; 6 P. M., 98.2°; 12 midnight, 100°.

**15th.**—Much brighter; he recognizes his friends. Abscess cavity smaller. I have introduced my little finger each day to be sure that the wound was filling up from the bottom. His general condition has much improved. 3 A. M., temperature, 97.8° F.; 9 A. M., 98°; 6 P. M., 98.4°.

**17th.**—Steady improvement. The wound is dressed daily and the pus has much less odor. He is still unable to name simple objects.

**19th.**—At times he is very much confused and restless, then again he talks rationally and recognizes every one. Wound granulating.

**22d.**—He read a newspaper to-day, but evidently does not understand very much. No word deafness and no motor aphasia, but he can not remember names, and especially proper names.

**30th.**—His condition has steadily improved. Patient entirely rational. The wound is dressed daily.

**January 3, 1896.**—Aphasia disappearing. The constant current is applied to the face daily.

**29th.**—During this month there has been a constant but steady improvement in all symptoms and the aphasia has practically disappeared. He has gained very much

in weight. The external wound has almost entirely healed, and the patient was allowed to leave the hospital to-day.

*June 1st.*—The patient has been under treatment ever since. There still remains a very small sinus over the antrum and leading down to it. A small sequestrum of bone came away from the mastoid region some little time ago. There is still more or less discharge of pus from the external meatus. The patient feels well and is able to ride a bicycle, and has attended to business for the past three months. The facial paralysis is disappearing.

Of five patients with brain abscess whom I have had under observation and who were operated upon, two have recovered and three have died. Of these cases, three were abscesses of the temporo-sphenoidal lobe, one was an extradural abscess,\* and one was an abscess in the cerebellum.† The other case that recovered besides the one just reported was the patient with the extradural abscess.

All these cases of temporo-sphenoidal abscess occurred on the left side of the brain, and all three patients well-marked aphasic symptoms. All had severe headache. In two the pulse was slow and full and the temperature almost normal or subnormal, while in the one reported above the temperature was high and the pulse rapid, and every indication seemed to point to a thrombus of the lateral sinus. I was firmly convinced, however, before the second operation that the case was one of temporo-sphenoidal abscess rather than of thrombosis, as I had injured the lateral sinus when opening the mastoid antrum and had had a copious flow of blood from it.

When suppurative otitis media on the left side occurs in a patient who is right-handed, followed by a cerebral complication, I believe that aphasic symptoms are of the greatest value in arriving at a diagnosis of abscess in the temporo-sphenoidal lobe. A slow pulse is also extremely characteristic.

This case illustrates the point that a patient with a cerebral abscess may have chills, high temperature, rapid pulse, and convulsions, so that it becomes extremely difficult in such to make a differential diagnosis between abscess of the brain and thrombosis of the lateral sinus.

(Of the two other cases of temporo-sphenoidal abscess referred to in this paper, one was published in the *Transactions of the American Otological Society*, 1888, and a report of the other one will appear in the August number of the *Archives of Otolaryngology*, 1896.)

## A CASE OF PRECOCIOUS MENSTRUATION.‡

By J. W. IRION, M.D.,

PROFESSOR OF HYGIENE AND STATE MEDICINE,  
MEDICAL DEPARTMENT, FORT WORTH UNIVERSITY.

I HAVE under my care such a remarkable case of precocious menstruation that I feel it my duty to report

it to the profession. In looking up the history of precocious menstruation I find but little concerning it, and no case so remarkable as the one I have under my observation.

On October 10, 1895, I was called to attend Mrs. N. in labor. She is of a German family, well formed, strong, and vigorous. This was her second labor, the first child having been a boy, a fine, vigorous child. At about 5 A. M. Mrs. N. was delivered of a girl infant weighing nine pounds and normal in physical condition. On the morning of the 17th I was called to see the baby. I found the infant in good condition, sleeping well, and taking its nourishment as it should. I was told by the mother that upon her usual examination of the child that morning she noted a bloody discharge from the vagina. Upon examination, I found the condition as the mother had described it. The child seemed in no way disturbed. The flow lasted for four days. In December the flow did not return and the child suffered with all the nervous phenomena that usually accompany the missing of a period in an adult, and she broke out from the top of her head to the soles of her feet with an eczema that persisted for some time, but gradually subsided. Her mother attributed the non-return of the flow in December to a rather cold bath the day before the flow was expected. Since December the flow has returned with perfect regularity, and the child is in good health, skin fair and clear, eyes bright and intelligent. The breasts and mons Veneris in the child are considerably developed, and during the flow the breasts enlarge and are somewhat sensitive to the touch. The mother's menstrual period was established at the age of thirteen years.

## Therapeutical Notes.

### Tincture of Aloes in the Treatment of Varicose Ulcers.

—According to Coffin (*Journal des maladies cutanées et syphilitiques*, 1896, No. 1; *Centralblatt für die gesamte Therapie*, August, 1896), small varicose ulcers of the feet may be treated advantageously with tincture of aloes. They are to be cleansed and disinfected and then smeared with the tincture. In the course of half an hour the tincture dries into a thin layer. Over it a dressing is applied consisting of a piece of gutta percha tissue, some wadding, and a bandage. At first the tincture causes some pain. The dressing is to be changed in four days.

### Paquelin's Cautey in the Treatment of Chancroid.

—Audry (*Monatshefte für praktische Dermatologie*, xxii, 10; *Centralblatt für die gesamte Therapie*, August, 1896) recommends the following treatment: Wash, cleanse, and dry the ulcer, and then hold the red-hot cautery close to it for an instant. One treatment converts the sore into a simple one which will heal quickly under iodoform.

### Camphor and Tannin in the Treatment of Erysipelas.

—The *Centralblatt für die gesamte Therapie* says that Rehbinder recommends painting the affected skin with this solution:

R	Tannic acid, }	of each.....	4 parts;
	Camphor, }		
	Spirit of ether.....	30	"

To be applied hourly for four or five times.

\* *New York Eye and Ear Infirmary Reports*, 1894.

† *American Journal of the Medical Sciences*, August, 1895.

‡ Reported to the North Texas Medical Association, June meeting, 1896, at McKinney, Texas.

**An Ointment for Fissure of the Anus.**—The *Centralblatt für die gesammte Therapie* credits the following formula to the *Revue de thérapeutique*:

R Extract of cicuta.....	5 parts:
Castor oil.....	15 "
Lanolin.....	30 "

M.

**A Dressing for Suppurating Wounds.**—Schwartz (*Journal des praticiens; Centralblatt für die gesammte Therapie*) recommends the following powder:

R Powdered iodoform,	
"    silol,	
Bismuth subnitrate,	equal parts,
Powdered charcoal,	
"    cinchona,	
"    benzoïn,	

**Valerianate of Creosote.**—According to E. Grawitz (*Therapeutische Monatshefte*, 1896, No. 7; *Therapeutische Wochenschrift*, July 19, 1896), this compound is neither caustic nor poisonous. It has the trade name of eosote. It comes in gelatin capsules, each containing about three grains. At first, a capsule is to be given three times a day, with an abundance of milk; afterward the number may be increased to two or three at a time. The compound is used for the same purposes as creosote.

**An Antiseptic Wash for the Mouth.**—The *Presse médicale* for July 18th contains the following formula:

R Thymol.....	4 grains;
Benzoic acid.....	45 "
Tincture of eucalyptus.....	225 "
Essence of peppermint.....	60 "
Chloroform.....	15 "
Alcohol.....	3 ounces.

M. Twenty drops of this solution, in a glass of water, may be used at a time.

**Tannigen in the Treatment of the Diarrhœa of Infants.**—Hock (*Wiener medizinische Blätter*, July 23, 1896) gives the following formula:

R Tannigen.....	30 grains;
Sugar of milk.....	45 "

M. Divide into ten powders. Half a powder (for a child a year old, a whole powder) may be given every four hours.

**Ichthylol in the Treatment of Pulmonary Tuberculosis.**—Scurpa (*Therapeutische Wochenschrift; Deutsche Medicinal-Zeitung*) employs the following formula:

R Ichthylol.....	1 part;
Water.....	3 "

M.

Twenty drops, in water, are to be taken in a day at first, and the daily amount gradually increased by ten drops at a time until it reaches two hundred drops.

**Sanoform, a New Substitute for Iodoform.**—Arnheim (*Allgemeine medicinische Centralzeitung*, 1896, No. 37; *Centralblatt für Chirurgie*, July 11, 1896) has used this proprietary preparation, known chemically as diiodosalicic-acid methylether, an odorless and tasteless powder, as a substitute for iodoform in seventy-two cases, in the form of powder, gauze, ointment, and collodion. It is readily soluble in alcohol, in ether, and in vaseline. His cases included forty-two of ulcers of the genitals, sixteen of phimosis, six of buboes, three of excision of ulcers, and five of pararitia. He thinks that sanoform is always as efficient as iodoform, and sometimes superior to it. No local irritation or any sign of poisoning with it has been observed by him. It costs no more than iodoform.

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### MARAGLIANO'S ANTITOXINE-SERUM TREATMENT OF PULMONARY CONSUMPTION.

IN the *Deutsche Medicinal-Zeitung* for July 27th there is an exceedingly satisfactory article on The Serum Treatment of Pulmonary Tuberculosis, by Dr. Zaeslein, of Genoa. The serum treatment, he remarks, consists essentially in introducing into the human body substances which either of themselves oppose the germ of the disease or lead to the formation of such material (antitoxines) in the organism. Koch's tuberculin, although it has proved a failure as a curative agent, does lead to a formation of antitoxine, but it is not known that sufficient antitoxine to prove curative can be produced by the use of safe doses. The employment of tuberculin as a therapeutic measure having therefore been practically renounced, some experimenters, especially Richet and Héricourt, sought to cure tuberculosis by injecting the normal serum of such animals as the goat and the dog, which are naturally almost completely proof against the disease; but the results were not very encouraging.

Then animals were treated with tuberculous matter, in order to engender large amounts of antitoxines in their blood. For that purpose Maragliano used cultures of the tubercle bacillus, but without living bacilli; Behring, Wernicke, Knorr, and Niemann employed tuberculin; Babes and Broca made use of the bacilli of the tuberculosis of birds, human tuberculin, and dead or attenuated cultures of the human bacillus; and Paquin used "cultures" from tuberculosis. The serum of animals systematically treated with any of these materials annuls the action of tuberculin; Maragliano first announced this with regard to his product, in August, 1895. Wernicke, Knorr, and Niemann employed only those culture products that resist heat, but Maragliano uses also those that are destroyed by heat, and Zaeslein thinks it probable that this is of great advantage. Babes and Paquin have had some good results, but there are no statistics to compare with Maragliano's, which now include four hundred and fifty cases. The use of his serum has passed the experimental stage



and may safely be received into practical therapeutics, for the dose in antitoxic units is adjustable and calculated for long periods and the use of the remedy rests on adequate clinical observation.

For the inoculation of animals, Maragliano uses the filtrate of cultures that have been heated, as well as that of those that have not been heated. The first-mentioned are prepared by steaming highly virulent pure cultures at a temperature of  $212^{\circ}$  F. for three or four days, and then treating them in the same way as for producing Koch's tuberculin; in the preparation of the last-mentioned, the cultures are filtered through a Chamberland filter at the ordinary temperature, and then placed in a vacuum with the temperature never above  $86^{\circ}$  F. The first product contains all the toxic elements that resist heat, i. e., the bacterial proteins, or tuberculins; in the second there are the toxalbumins, which do not bear heat, and tuberculins also, for in all cultures there are fragments of bacilli which doubtless contribute tuberculins to a solution. Now, as it is known that not all cultures are equally toxic, an unchanging toxic unit has to be established, in order that the animals may be inoculated uniformly. This is accomplished by greater or less concentration of the filtrates, and the unit consists of a weight sufficient to kill a healthy guinea-pig of a certain weight; in this case the two filtrates are concentrated to such a degree that a cubic centimetre will contain a hundred toxic units, i. e., a cubic centimetre for each fifteen hundred grains of the guinea-pig's weight will be required to kill the animal. In the inoculations, three parts of the heated and one part of the unheated filtrate are employed, the operator beginning with two milligrammes for each kilogramme of the animal's weight, and increasing the dose regularly by one milligramme daily until it reaches from forty to fifty milligrammes, at which it is to remain. Dogs, asses, and horses are employed, and ordinarily the inoculations are continued for six months. The animal will then withstand large doses of virulent cultures, even by intravenous injection. Before blood is drawn from the animal there is a pause of three or four weeks, in order to make sure that the serum contains no residue of the poisonous substances that have been injected. The serum is separated and treated according to the ordinary method.

The physiological action of the serum on man is as follows: In a healthy person, the curative serum as such has no effect on the temperature; however, like any other animal serum, even that of animals that have

not been inoculated, in certain individuals it may, especially if used in large doses, cause a rise of temperature, but the fact of its coming from an inoculated animal has nothing to do with this. It has no direct influence on the circulation; when, however, a tuberculous patient's general condition improves after a series of injections, the pulse grows correspondingly slower and fuller. There is often a striking increase in the number of leucocytes in the blood; in tuberculous persons the number of the red corpuscles and the amount of hæmoglobin also are increased in proportion to the improvement of the general condition. In general, there is no perceptible effect on the urine, but when a large dose, as much as ten cubic centimetres, is given at one time, temporary peptonuria may occur, but never glycosuria or albuminuria. The appetite is almost always increased, also the weight; if the loss of flesh has been only slight, there will be but little increase, but in very emaciated persons the gain will be striking, amounting in some instances to as much as thirty pounds.

Zaeslein then proceeds to the effects of the treatment on the manifestations of the disease, considering first those that are local. The chief effect elicited by auscultation, he says, is a diminution and final disappearance of the rales, which means a drying up of the deposits, beginning with those that are recent and slowly extending to the older ones. Subsequently the areas of dullness diminish or disappear. These effects occur even in cases in which no other measure has been of any avail and whether or not there is fever and whether or not heredity is playing a part. Now and then a tendency toward cure is perceptible within a few days, and usually in the course of a month, if the process is not too far advanced and not too many other bacilli are present. Slight fever usually disappears, slowly when the treatment is carried out according to Maragliano's directions; high fever may abate and, if the progress of the case is to be favorable, subside entirely. Very high fever and the subcontinuous fever which occurs in the final stage may be reduced or overcome if large doses of the serum are employed—from five to ten cubic centimetres every fifth, sixth, or seventh day, but only for two or three days; this effect is not constant and generally not lasting.

A tolerably constant effect is a gain in weight, even if the fever continues. Maragliano says: "The patient gains weight because he eats more, it is true, but it is because the serum treatment enables him to eat more." As the other symptoms are ameliorated, the number of

tubercle bacilli in the sputa becomes reduced, slowly of course in severe cases; finally they disappear entirely and not merely for the time being, provided the treatment is energetic and continued long enough. As regards the general condition, many patients say that they feel stronger after the first few injections, and they are inclined to do some work, which for a long time had been impossible for them; but this, of course, is only a subjective phenomenon. After further treatment the whole scene changes—there is a sharp appetite, the patients take long walks without exertion or fatigue, and they do not get out of breath. Moreover, their sleep is long and restful.

As regards the different forms and stages of the disease, Maragliano divides all cases of pulmonary tuberculosis into two great groups—those in which Koch's bacillus is the only micro-organism, or almost the only one, found in the sputa, and those in which there is an abundance of other microbes, such as streptococci, staphylococci, and the diplococcus of pneumonia, constituting what he calls "microbial associations." In these latter cases the cure, although not impossible, is difficult and protracted; they are the ones in which the old remedies must not be neglected on account of the serum treatment. Besides the question of which of these two great divisions the case belongs in, one has to take into account four other considerations: The "quality" of the disease (whether there is only catarrh or infiltration, whether the infiltration is compact or disseminated, whether there is a tendency to caseation or to cirrhosis, and whether or not there are cavities); its "quantity" (the amount of tissue diseased); its intensity; and the patient's general condition. All these data are of importance in the prognosis.

Maragliano's statistics relate to four hundred and forty-five [the article says four hundred and fifty] cases, including the eighty-two that he reported in August, 1895, before the Société française de médecine interne, those recorded or reported to him by other Italian physicians, and a few contributed from France and Austria. When Maragliano speaks of a cure, he means a "provisional cure," manifested by the disappearance of all subjective symptoms and all physical signs except dullness on percussion. The cases are divided into six groups as follows:

1. *Patients with destructive bronchopneumonia and cavities.* 105.

Cured .....	8
Improved .....	37

Not affected .....	37
Grew worse .....	23

Eighty-two of these patients had fever. It disappeared in twenty-nine, was reduced in sixteen, and remained stationary in thirty-seven. The local signs disappeared in twenty, were mitigated in thirty, and were unchanged in forty-eight. The weight increased in forty-three cases, remained stationary in twenty-six, and decreased in seven.

2. *Patients with destructive bronchopneumonia, without recognizable cavities, with "microbian associations,"* 85.

Cured .....	9
Improved .....	45
Not affected .....	24
Grew worse .....	7

The fever disappeared in forty, abated in eleven, and remained the same in twenty-one. The local signs disappeared in fifteen, were improved in forty, and remained unaffected in twenty-one. Forty-three gained flesh, four lost weight, and in twenty-two there was no change of weight.

3. *Patients with diffuse febrile pneumonia, with or without a destructive character,* 120.

Cured .....	11
Improved .....	61
Not affected .....	35
Grew worse .....	13

The fever disappeared in sixty, grew less in twenty-two, remained the same in twenty-nine, and increased in eight. The local signs vanished in twenty-four, were improved in fifty-one, remained stationary in twenty-nine, and were aggravated in twelve. Forty-eight gained flesh, eight lost, and in twenty-two there was no change.

4. *Patients with diffuse non-febrile bronchopneumonia, with or without destruction,* 47.

Cured .....	2
Improved .....	33
Not affected .....	11
Grew worse .....	1

The local signs disappeared in eleven, remained the same in thirteen, and were improved in twenty-two. The weight increased in twenty-four and was unchanged in twelve.

5. *Patients with circumscribed febrile bronchopneumonia.* 54.

Cured .....	20
Improved .....	31
Not affected .....	3

The fever disappeared in forty-seven, was unchanged in four, and was aggravated in one. The local signs disappeared in twenty-five, were improved in twenty-five, remained the same in three, and were intensified in one. Forty-four gained in weight and in four there was no change.

6. *Patients with circumscribed apyretic bronchopneumonia.* 34.

Cured ..... 22

Improved ..... 10

Not affected ..... 2

The local signs disappeared in twenty-three, were improved in eight, and were unchanged in two. The weight increased in twenty-seven and was not affected in one. It is explained that the omission of some of the data in the foregoing statistics was due to defective histories having been sent in some instances.

To summarize the results, the fever disappeared in 176 out of 322 cases—in 55 per cent. of cases of bronchopneumonia with "microbian associations," in 32 per cent. of those of cavities, in 48 per cent. of those of diffuse bronchopneumonia, and in 86 per cent. of those of circumscribed bronchopneumonia. The local signs disappeared in 27 per cent., were improved in 41 per cent., were unchanged in 30 per cent., and were aggravated in 6 per cent. [so the account says, but these numbers added together make 104; consequently there has been a slip of the pen]. There was an increase of weight in 57 per cent. The tubercle bacilli disappeared in 43.2 per cent. (in 54 per cent. of the febrile bronchopneumonias and in 88 per cent. of the non-febrile circumscribed bronchopneumonias).

As a general thing, a cubic centimetre of the serum was administered subcutaneously every other day, and the temperature was carefully observed. Inasmuch as a few persons are sensitive even to this dose, half a cubic centimetre may be given to begin with. Such individuals may be recognized by their showing a febrile reaction on the injection of two cubic centimetres of a physiological salt solution. In the great majority of instances there was neither a rise of temperature nor any other disturbance, even when the treatment was continued for many months. When a rise of temperature occurred the treatment was suspended until it fell, but even in such cases a definitive apyrexia occurred in time. When the treatment, thus employed, failed to affect patients who had high fever and were in bad general condition, from five to ten cubic centimetres of the serum were given every fifth day; when three

or four such injections had been given without avail, it was thought useless to continue with them, and the ordinary plan of using small doses was resumed.

The use of the serum should be continued until a cure results, then two injections a week should be given for two months, and after that one injection a week for a year. The side of the chest and the back are the preferable parts for the injections. They are no more painful than injections of morphine; occasionally a little swelling occurs, but it subsides in a few days, rarely there is urticaria, and no other accidents are observed. The serum is described as clear and free from flocculi and sediment. Not until it has been kept for a long time does it become turbid, and then it had better be discarded, although the flocculi seem to consist only of precipitated albumin.

#### THE USE OF DIPHTHERIA SERUM IN OZÆNA AND CHRONIC PURULENT OTITIS.

In the *Therapeutische Wochenschrift* for July 26th, Professor Gradenigo, of Turin, gives an outline of the researches made since Fränkel's, in 1882, into the ætiology of ozæna. He accepts the theory of its infective character and recognizes Belfanti's bacillus as its cause. On account of the close resemblance, in effects, between this bacillus and that of diphtheria, he has used the antidiphtheritic serum in thirty-two cases of ozæna. Sixteen of them were practically cured; that is, they were mitigated to the extent that the formation of crusts and the fœtor disappeared. In the other cases there was tangible improvement. Most of the patients had had the disease for a long time and had tried other treatment without avail. In the cases that were approximately cured, the duration of the treatment varied from thirty to sixty-eight days, and the number of units of serum employed in an individual case ranged from 5,200 to 27,200. In all the cases œdema at the site of the injection, urticaria, etc., followed after a certain number of injections had been used, but they were of brief continuance. In the sixteen cases that were cured, the duration of the treatment was from fifteen to seventy-two days, and the number of injections was from four to thirty-five, the number of units of serum used being from 5,200 to 48,000. Mild local or general reaction symptoms occurred in almost all these cases, and attacks of bleeding from the nose were observed.

Professor Gradenigo has employed the same treatment in two cases of chronic purulent otitis, or, rather, it happened that two of his ozæna patients were affected



with the ear disease also, and the serum treatment was observed to have a very favorable effect upon it. He considers Belfanti's discovery of the bacillus of ozæna not only of great practical benefit as leading to a successful treatment of the disease, but also of much importance in general pathology.

### MINOR PARAGRAPHS.

#### THE SERUM TREATMENT OF SYPHILIS.

PROFESSOR BOECK, of Christiania (*Archiv für Dermatologie und Syphilis*, xxv, 3; *Wiener medizinische Blätter*, July 30, 1896), resumed the serum treatment of syphilis in 1894, using the fluid removed from the tunica vaginalis in cases of hydrocele in syphilitic men. He comes to the following conclusions: 1. The symptoms of the primary period are more rapid in their involution than under the expectant treatment. 2. The secondary symptoms are somewhat delayed. 3. They are decidedly mitigated, so that the rash is hardly noticeable and the affections of the mucous membranes are strikingly slight. 4. The general condition is speedily improved. 5. The stage of secondary eruption is shortened. 6. The treatment is the more effective the earlier it is begun. 7. Serum from a person in the tertiary stage is more efficient than that from a person in the secondary stage. Although, on the whole, the serum treatment is not so effective as the use of mercury and iodine, it is deserving of further trial and may be regarded as a useful auxiliary.

#### THE NEXT MEETING OF THE BRITISH MEDICAL ASSOCIATION.

It is announced that the meeting of 1897 is to be held in Montreal. This news, we are confident, will prove quite as acceptable to the physicians of the United States as to those of the Dominion, and it can readily be foreseen that there will be a large attendance of Americans at the meeting.

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 11, 1896:

DISEASES.	Week ending Aug. 4.		Week ending Aug. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	17	8	29	10
Scarlet fever.....	35	5	42	3
Cerebro-spinal meningitis.....	0	0	1	1
Measles.....	110	7	77	6
Diphtheria.....	146	18	138	36
Tuberculosis.....	183	103	177	84

**The New York City Health Department's Circular of Information regarding the Use of Mallein for the Diagnosis of Glandered Horses**, just issued, is as follows:

"The health department of New York city is prepared to furnish mallein for the diagnosis of glanders in horses. This is prepared by Nocard's method, and is furnished in vials containing a single dose of 2½ c. c. In order that accurate results may be obtained in all cases where mallein

is employed for the diagnosis of glanders, the following directions should be carefully followed:

1. The temperature of the animal to be tested should be taken three times a day for three days previous to the injection, to determine the mean temperature. 2. The animals to be tested should be protected against sun, rain, or wind, as these influences may occasionally cause a rise of temperature of one or two degrees or more, independent of the action of mallein. 3. On the day of injection, the temperature should be taken every two hours from early morning until late at night, and during the two succeeding days it should be taken three times a day. 4. The injection should be made into the shoulder, and the skin should be previously washed thoroughly with soap and water and then with some antiseptic solution, such as lysol 2 per cent., carbolic acid 5 per cent., or bichloride of mercury 1 to 1,000. Care should be taken to carefully sterilize the needle of the syringe after each injection, or, better, to use separate needles, if healthy and suspected animals are being inoculated at the same time. The animals supposed to be healthy should be first injected, and the needle (if it is necessary to employ the same needle) carefully sterilized by heating to a red heat or boiling in a 1-per cent. soda solution after the injection of each suspicious animal. 5. The thermometer should be sterilized in 5-per cent. carbolic-acid solution after the temperature of each horse is taken.

"Following an injection of mallein in a glandered horse, there will be a general reaction, with a rise of temperature and a local reaction. The temperature usually begins to rise three to four hours after the injection, and reaches its maximum between the tenth and twelfth hours. Sometimes, however, the highest point is not reached until fifteen or eighteen hours after the injection. This elevation of temperature is from 1.5° to 2° C., or even 4° C. above the normal mean temperature (i. e., 27° to 72° F.). In a healthy animal the rise of temperature, as a rule, amounts to only a few tenths of a degree, but it may reach a degree C. (= 1.8° F.), or a little more. The rise of temperature, however, should always be considered in connection with the general and local reactions. In a glandered animal, after an injection of mallein, the general condition is more or less profoundly modified. The animal has a dejected appearance; the countenance is pinched and anxious; the hair is rough and on end; the flank is retracted; the respirations are rapid; there are often slight or decided rigors; the appetite is gone. These symptoms vary greatly in different animals, but are never completely lacking. In healthy animals the general symptoms do not occur. The local reaction around the point of injection in a glandered animal is very marked. A few hours after the injection, there appears at this point a large, warm, tense, and very painful inflammatory swelling, and running out from the contour of this swelling will be seen hot sensitive lines of sinuous lymphatics, directed toward the neighboring lymphatic nodes. When the injection has been made aseptically, this swelling never suppurates. It, however, increases for twenty-four to thirty-six hours, and persists for several days, not disappearing entirely until after eight or ten days. In healthy animals, at the point of injection mallein produces only a small oedematous tumor, slightly warm and sensitive, and the oedema, instead of increasing, diminishes rapidly and disappears entirely in less than twenty-four hours. It is important to remember that the phenomena produced by mallein in glandered animals persist for a long time, the prostration continuing for from twenty-four to forty-eight hours, the temperature remaining above normal. If in any case the reaction obtained is only sufficient to cause suspicion of glanders (i. e., a rise of temperature of 0.8° to 1.1° C., or 1.5° to 2° F.), the injection of mallein should be repeated at the end of four or five days. Healthy animals seem to acquire an immunity to mallein, while glandered animals still react.

"Certain diseases, e. g., parvitis, often cause marked oscillations of temperature. When testing horses affected with such diseases, it should be noted after the injection whether the rise of temperature is persistent, and whether the general and local reactions are present. It is always better, however, when possible, to avoid injecting mallein in horses which already show an elevation of temperature. In acute glanders accompanied with high temperature, it sometimes happens that after an injection of mallein the

temperature does not rise a full degree. In other diseases, where the temperature is already high, there will generally be no elevation at all of the temperature, and there may even be a depression. The health department of New York especially requests that all veterinary surgeons who use mallein will forward full reports of the results obtained."

**Medical Education in Illinois.**—We have received a communication from Dr. J. W. Scott, the secretary of the State Board of Health of Illinois, in which, referring to Dr. Julius Grinker's letter, published in the *Journal* for July 25th, he says:

"Without discussing the merits or demerits of night schools or summer schools, the fact that Dr. Grinker connected himself with and remained for a year upon the faculty of a school which 'induces young and middle-aged men and women to leave the workshop and the stock yards where they slaughter cattle for the more remunerative occupation of slaughtering mankind' must, in the minds of fair-minded members of the profession, raise some question as to the sincerity of the motives which prompt his sudden solicitude for the cause of medical education."

Dr. Scott then gives a list of the members of the board and says: "No one acquainted with any of these members (and they are not unknown to the profession) believes that they would stretch the law in the interest of any institution or that they are less jealous of the good name and high standing of the Illinois State Board of Health than the gentleman . . . who, from whatever motive and without any knowledge of the workings of the board, made such an unwarranted attack. That the policy of such a board could be molded by its clerical officer is unworthy of any consideration whatever."

"Two statements in the communication of Dr. Grinker," says Dr. Scott, "are worthy of some attention as showing the personal prejudice and insincerity of the man. First, the statement is made that 'in the State of Illinois there are no recognized schools of midwifery. Every midwife must undergo a thorough examination before the Examining Board of the State (the State Board of Health). This means that the afflux of so-called midwives to the State is somewhat checked, as a large percentage of those applying for a license fail to pass their examination.' Dr. Grinker is not ignorant of the fact, though he does not mention it, that this result is largely due to the action of the present board in requiring of all applicants a *written* examination in place of the oral examinations previously conducted, and still further to the rule of the present board, which provides that all applicants who fail to pass the examination shall not be eligible for a second examination within a period of twelve months."

"Again, this statement: 'As long as the enforcement of those rules (preliminary educational requirements) rests with the school and not with the State board, the law is easily enough evaded.' Dr. Grinker is not ignorant of the fact that the Illinois State Board of Health, at the suggestion of its secretary, and working in harmony with the boards of Missouri and Iowa, have formulated and distributed to medical colleges of the country a new schedule of minimum preliminary educational requirements, by which the determination of the eligibility of the applicant to matriculate is taken out of the hands of the schools and practically determined by the State boards. Let each reader determine for himself why a friend of higher medical education should so pervert the facts."

"The statement that the secretary is a warm supporter of a movement to recognize certain schools of midwifery is totally false, as the records will show. On the contrary, the secretary has been and is in favor of requiring all applicants for midwifery certificates to pass a rigid *written* examination, and . . . does advocate the fixing of the minimum requirements for schools of midwifery as high as those for medical colleges."

"No college in Chicago has been accorded recognition by this board which has not first been investigated by a committee, of which the secretary is not a member, as to its teaching facilities, clinical resources, etc. The colleges referred to in Dr. Grinker's communication were all de-

nied recognition for several years and until they had complied with requirements established by the board, and will be deprived of such recognition, as has been repeatedly done, whenever it can be shown that they are violating those requirements. Dr. Grinker has filed written charges against the Harvey Medical College, which have been referred to a committee for investigation; but, for the reason that the board would not take summary action without giving the institution a chance to be heard in defense, has undertaken to excite prejudice against both the college and the board by rushing into print with a communication slandering both."

"Dr. Grinker's attempt to make his attack upon the board a plea for the establishment of a State examining board before which every applicant must appear and pass an examination, and thus curry favor with the most advanced advocates of higher medical education, will not, I think, deceive any. For that the establishment of such a law is the best solution of the question, and will ultimately be effected, I believe is the sentiment of the members of the Illinois board and certainly is of its secretary. But that the establishment of such a law is desirable can not in any degree justify a venomous attack upon a board which is doing its work courageously and conscientiously under the law which created it and by whose provisions it must be guided."

In a postscript, Dr. Scott says: "The reference to the annual announcement of the Illinois Health University, published in the *Journal* of August 1st, furnishes another evidence of the vigilance of the Illinois board in enforcing the medical laws of the State. Shortly after the organization of this institution, the attention of the attorney-general was called to its existence and character by the secretary of the board and suit was brought in the Circuit Court of Cook County, which resulted, on the 24th ult., in a decision by Judge Clifford revoking the charter of the institution on the ground of fraud."

**A Craze for Quackery in Paris.**—The following is taken from London dispatches to the *Sun*:

"Quackery has come to be more profitable than the legitimate practice of medicine with a large class in Paris. The other day a gentleman whose rooms are crowded from morning till night with patients was threatened with prosecution for exercising the profession without a diploma. Being thus brought to bay, he confidentially displayed to the officials the necessary document. He, however, implored the authorities to keep the diploma secret, explaining that if his clients had an inkling that he was a veritable physician his gains would diminish. M. Paul de Cassagnac makes even a more remarkable disclosure, and vouches for its authenticity. He asserts that there is a house in Paris in which patients are received for the purpose of undergoing sham operations. They have been induced to believe that they are suffering from some organic complaint which can only be cured with the knife, and they betake themselves to this establishment, which has been particularly recommended to them. On the day appointed for the so-called operation they are put under chloroform, and a few make-believe cuts and scratches are inflicted. In certain medical circles there is a regular name for men who practise these tricks on the victims of some imaginary ailment."

**An American Physician Honored in China.**—Under this heading, the *Lancet* for August 1st prints the following paragraph in its New York letter: "Dr. Boudinet Currie Atterbury, Presbyterian medical missionary to China, has been honored by the Emperor of China with the Imperial Order of the Double Dragon, Second Degree, a distinction never before conferred on any foreigner except the ruler of some friendly power. This mark is in recognition of the notable services rendered by the American physician in connection with the work of the Red Cross Society during the late war. Dr. Atterbury was born in New York city, and comes of a family long prominent in New York. He studied at Yale College, and took his medical course in this city under the direction of Dr. Frank H. Hamilton. After he graduated in medicine from Bellevue



Hospital Medical College, of the class of 1877, he went to China under the auspices of the Presbyterian Board, and was assigned to missionary duty in the city of Peking. He there assisted in the establishment of the Ah Ting Hospital. While there his work was brought to the attention of the Emperor and the royal family. He afterward went to Tientsin, where he is at present."

**Foreign Bodies in the Stomach.**—"It is said that a Yalta woman recently presented herself for treatment at an Odessa hospital. An operation was performed which, it is said, revealed the presence in her stomach of a strange assortment of objects, which were removed. It comprised a fork, a piece of iron, two teaspoons, a needle, a piece of lace with the crochet needle, two 24-inch nails, four pieces of glass, eight buttons, and a key."—*American Medical-Surgical Bulletin*.

**The Kentucky School of Medicine.**—Our latest information from Louisville is to the effect that Dr. Wathen "has entire control of everything included in the chair of obstetrics and gynecology," and Dr. Coomes has the same control as regards the chair of physiology, ophthalmology, otology, and laryngology.

**A Bit of Newspaper Medicine.**—One of the morning papers tells of a woman who was recently found lying in a salt marsh on Coney Island "unconscious" and "apparently suffering greatly."

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2 to August 8, 1896:*

CROSEY, WILLIAM D., Captain and Assistant Surgeon, Fort Missoula, Montana, is granted leave of absence for one month.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 8, 1896:*

BARBER, G. H., Passed Assistant Surgeon. Detached from the U. S. Steamer New York, ordered home, and granted leave of absence for two months.

MEANS, V. C. B., Passed Assistant Surgeon. Detached from the U. S. Steamer Maine and ordered to the U. S. Steamer New York.

## Births, Marriages, and Deaths.

### Married.

BARLOW—ANGELL.—In Providence, Rhode Island, on Tuesday, August 4th, Dr. Charles W. Barlow and Miss Florence A. Angell.

LORD—FORSATH.—In Rochester, N. Y., on Monday, August 3d, Dr. Matthias L. Lord and Miss Addie E. Forsath.

STICKLER—HARDING.—In Orange, New Jersey, on Thursday, August 6th, Dr. Joseph W. Stickler and Miss Mary Harding.

### Died.

CALLENDER.—In Nashville, Tennessee, on Monday, August 3d, Dr. John H. Callender, in the sixty-fourth year of his age.

CORTLEYNOT.—In Brooklyn, on Wednesday, August 5th, Dr. Lawrence V. Cortleynot.

PRIOLEAU.—In Summerville, South Carolina, on Friday, August 7th, Mr. Charles Edward Prioleau, son of Dr. William H. Prioleau.

ROSS.—In Pensacola, Florida, on Saturday, August 8th, Dr. William H. Ross.

## Proceedings of Societies.

### AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Tenth Annual Meeting, held in Atlantic City, on Tuesday and Wednesday, June 2 and 3, 1896.*

The President, Dr. CLAUDIUS H. MASTIN, of Mobile, in the Chair.

(Continued from page 167).

**Clinical and Pathological Notes on Syphilis.**—Dr. JOHN A. FORDYCE, of New York, read a paper on this subject in which the first portion was devoted to a description of the pathological appearance of the lesions met with in the various stages of syphilis. The second portion was devoted to the subject of *myositis syphilitica*. The author stated that, while involvement of the muscles in syphilis was by no means of frequent occurrence, it was met with in both the early and late stages of the disease. Before or during the outbreak of the early eruption, general or localized muscular pains not infrequently occurred, which simulated rheumatism and interfered to some extent with the movements of the implicated muscles. These muscular pains were transient in duration, produced, as a rule, no evident change in the parts, and readily disappeared under specific treatment. In the late secondary or tertiary period of the disease a diffuse or gummatous myositis had been observed. Both these forms impaired the functional activity of the muscles and led at times to permanent changes in the parts. The disease seemed to show a predilection for certain muscles or groups of muscles, among which might be mentioned the biceps, the flexors of the forearms, the masseter, the sphincter ani externus, the deltoid, and the sterno-cleido-mastoid. In diffuse syphilitic myositis the first changes seemed to take place in the blood-vessels of the interfibrillary connective tissue, the muscular substance being affected secondarily. In neglected cases, or where the cause was not recognized, atrophy might occur and a complete cure become impossible. A correct diagnosis and early treatment warranted a good prognosis as a rule. The speaker then reported a case of syphilitic myositis which occurred in the second stage of the disease. In this case the left sterno-cleido-mastoid had been affected. The case had occurred in the practice of Dr. P. A. Morrow. Another case was reported which illustrated the gummatous type of the disease; in that instance also the sterno-mastoid muscle had been involved. In the concluding portion of his paper, Dr. Fordyce reported in detail an interesting case of brain syphilis. Numerous photographs were exhibited in connection with the various subjects discussed in the paper.

Dr. Post said that during the past year he had seen two or three cases of myositis which clinically might be syphilitic, but which had occurred in individuals in whom no history of that disease had been obtainable, and there had been no other symptoms pointing to it.

**Clinical and Pathological Report of a Case of Cerebral Syphilis.**—Dr. GEORGE E. BREWER and Dr. PEARCE BAILEY reported the case of a man, aged twenty-five, single, who was first seen in the autumn of 1892. His family history was negative. Aside from a moderate amount of neurasthenia, he had always enjoyed fair health. At the time of his first visit he complained of headache, sore throat, deafness, ringing in the ears,



and general malaise. Upon examination, an indurated ulcer was found on the penis, with enlarged inguinal, cervical, and epitrochlear glands. There was a well-marked macular syphilide on the chest and abdomen; mucous patches were found on the tongue, lips, and tonsils; there was otitis media on the left side. Under the use of inunctions, continued for several months, followed by that of protiodide of mercury internally, rapid improvement in all his symptoms took place and he returned to his home in the South, where for a period of eighteen or twenty months he was under the care of another physician, who prescribed "mixed treatment." During all this period he remained well and was free from noticeable manifestations of the disease. About three years and a half after the date of the original infection he again came under observation, complaining of severe occipital headache radiating down the back and accompanied by occasional attacks of vertigo. The pain was severer at night, and was sometimes associated with nausea, vomiting, and extreme restlessness. Examination at this time revealed slight enlargement of the left pupil, beginning double optic neuritis, and a marked increase in all reflexes; no paralysis; no foot clonus; no changes in sensation; no loss of sphincter control. Under mercurial inunctions and increasing doses of potassium iodide, rapid improvement in all his symptoms occurred. On April 20th, after five days of freedom from headache and all abnormal head symptoms, he was suddenly seized with loss of consciousness and an epileptoid convulsion involving all the extremities. Ten hours later another slight convulsion occurred. He became restless, excited, and mildly maniacal. The temperature, which up to that time had been normal, now rose gradually to 104° F. The pulse remained below 100 and was firm and regular. There was no embarrassment of respiration. In spite of vigorous antisymphilitic treatment, he gradually sank into a comatose condition, and died on May 6th.

At the autopsy, made a few hours after death, the pia appeared normal over the convolutions, but at the base of the brain it was opaque and thickened. At the superior termination of the basilar artery, and inclosed by thickened meshes of the pia, was a round tumor, seventy-five millimetres in diameter. This tumor lay between the third nerves, slightly indenting the pons, on the lower surface of which it pressed, and the basilar artery communicated with it. The basilar artery was filled with a red thrombus throughout its entire extent, and the upper portion of the vertebrals and part of the posterior communicating arteries were likewise occluded. There was no softening. Microscopical examination showed endarteritis of some of the large arteries at the base of the brain and an aneurysmal dilatation of the basilar artery. The tumor referred to was formed by the dilatation of this artery, the walls of which were partially destroyed.

Dr. BAILEY referred to the rarity of cases of acute cerebral syphilis which afforded an opportunity for pathological investigation. The pathology of cerebral syphilis showed that the blood-vessels were the commonest seat of the lesions in fatal cases. It was not definitely known in which coat of the vessel the morbid process began, but the intima showed the most marked changes. It was impossible to distinguish, histologically, between specific endarteritis and endarteritis due to atheroma. The prognosis of acute cerebral syphilis depended upon the predominating anatomical character of the inflammation.

**Operative Interference in Aggravated Instances of Gonocystitis.**—Dr. EUGENE FULLER, of New York, read a paper on this subject in which the following conclusions were drawn: 1. Chronic, non-tuberculous cases could be successfully and satisfactorily treated by extirpation of the sac. 2. Such an extreme measure, however, should be reserved for extreme cases which were associated with serious or severe subjective symptoms. 3. Before extirpation was resorted to, the patient should have the benefit of the stripping treatment, if his circumstances allowed it, and extirpation should be advised only in case the stripping treatment proved unsatisfactory. 4. In performing the operation, the Kraske incision was the method advisable. 5. The subjective symptoms associated with the disease ought to disappear as a result of the operation. 6. With but one seminal vesicle, provided it was healthy, the sexual function was strong and satisfactory. 7. Subacute epididymitis was to be expected after the operation, in connection with the testicle corresponding to the vesicle which had been removed. The testicle itself, however, did not subsequently become atrophied.

Dr. GEORGE CHISHMORE, of San Francisco, said he fully agreed to the statement made by Dr. Fuller that before undertaking any operation on the prostate or seminal vesicles, tuberculosis of that region should, if possible, be excluded. The speaker said he had thus far never resorted to operative measures in the treatment of gonocystitis; in a number of cases, however, he had seen marked benefit follow stripping the vesicle, after the manner suggested by Dr. Fuller.

Dr. GARDNER W. ALLEN, of Boston, exhibited a specimen composed of inspissated mucus which had been passed during urination, and probably had had its origin in one of the seminal vesicles.

Dr. JOHN P. BRYSON, of St. Louis, said he agreed to the statement made by Dr. Fuller that with the Zuckerkandl incision the field of operation was so limited that it was difficult to control the severe hemorrhage which was apt to occur, while the rectum or bladder or even the deep urethra was easily injured.

Dr. J. WILLIAM WHITE, of Philadelphia, reported a case of gonocystitis of long standing which had been entirely cured by the stripping method of treatment. In tuberculous cases, the speaker said, he confined himself to hygienic treatment, which was probably all that could be done.

Dr. A. T. CABOT, of Boston, said he was interested to learn how easily Dr. Fuller had been able to get at the seminal vesicles by means of the Kraske incision.

Dr. FULLER said he agreed with Dr. White that hygienic treatment was the only resort there was in cases of tuberculous origin. By operating in such a case we were apt to light up latent foci there and induce a rapid dissemination of the disease.

**Renal Tuberculosis.**—Dr. F. TILDEN BROWN, of New York, read a paper with this title. He stated that but three ways were known in which the tubercle bacilli might gain access to the kidney. These were: 1. By the blood. 2. By their multiplication and the gradual development of tuberculous granulations along the ureter from the bladder—ascending urinary infection. 3. By an extension of the disease from a neighboring or remote organ.

A summary of the different symptoms and evidences which had been advanced as in any way conducive to the diagnosis of renal tuberculosis, whether vascular or ascending in origin, would be fairly represented by the

following: The existence of a tumor which corresponded more or less accurately to the position of the kidney. Such a tumor might or might not be painful on palpation, or it might be the seat of spontaneous pain, often intermittent. The tumor might be a centre from which pains radiated to different parts of the abdomen, to the lumbar spine, down the groin, to the outer side of the thigh, or even to the opposite and healthy kidney. Again, without the presence of a tumor or an appreciable enlargement of the kidney, some of the following symptoms, which were mentioned in the order of their importance, might be noticed: Pallor and emaciation; cedema of the feet and legs; reaction to the injection of tuberculin; albuminuria; moderate pyrexia; night sweats; dysuria; pyuria, with acid urine; hæmaturia with acid urine; polyuria; frequency of urination; turbid urine seen by the cystoscope issuing from a ureter; and the finding of tubercle bacilli in that urine which was known to come from one or the other kidney, as when obtained by ureteral catheterism. The only micro-organism which could possibly lead us astray in the microscopic diagnosis was the smegma bacillus. The morphology of this parasite, as well as its similar reaction to the ordinary staining method for the tubercle bacillus, might, when it was present, easily be misleading, unless generous alcoholic decolorization was employed.

The symptomatology of renal tuberculosis was very important, because the physician who could make a positive diagnosis in a comparatively early stage of the disease rendered more valuable service than the surgeon did who, at a much later day, performed a successful nephrectomy.

As regarded the treatment of patients with renal tuberculosis, the rich would, as a rule, find their best resource in change of climate, careful attention to hygienic details, selected alimentation, and medicinal invigoration of the system. The poor, during the early stage of the disease, would receive the greatest benefit from a treatment which approximated as nearly as possible that advocated for their more fortunate fellow-sufferers. Theoretically, the earliest manifestation of a localized renal tuberculosis would be best treated by a radical surgical operation, but practical experience had pretty clearly shown that the temporary impairment of vitality attendant upon nephrectomy was of more disastrous import than the presence of an early tuberculous lesion and the bacilli causing it. On the other hand, if the lesion in the kidney was recognized comparatively early, it could by other than surgical measures, in many cases, be rendered so inactive as to approximate a cure. In exceptional cases, when the symptoms demanded it, nephrectomy was not only legitimate, but strongly indicated.

Dr. FRANCIS S. WATSON, of Boston, referred to the intermittence of the symptoms in many cases of renal tuberculosis. He also called attention to the value of resection or partial nephrectomy in some instances, and reported a case in which he had successfully removed the lower half of one kidney, which had been involved in tuberculosis.

Dr. WHITE, discussing the relative value of the lumbar and abdominal incision for nephrectomy, said that until last year he had been a strong advocate of the former. He had been induced to alter his opinion because the lumbar incision did not give the operator the necessary space. The operation of partial resection suggested by Dr. Watson seemed to him a very formidable one—more so than complete nephrectomy.

Dr. CHISMORE said that Dr. Brown, in his paper,

spoke of catheterizing the ureters in order to discover the origin of the tubercle bacilli. Such a procedure, Dr. Chismore said, or even the simpler one of cystoscopy, should be resorted to with considerable hesitation in any case where tuberculosis was suspected, as we were apt to aggravate the symptoms. When we considered the fact that in many cases of renal tuberculosis the origin of the trouble was associated with traumatism, how much more likely it was that any trauma inflicted afterward would aggravate the condition and tend to disseminate the disease.

Dr. JAMES BELL, of Montreal, referred to the importance of determining the condition of the opposite kidney before operating in cases of renal tuberculosis. In performing nephrectomy he preferred the abdominal incision because it might throw some light on the condition of the opposite kidney, and also because it enabled us to secure the pedicle with more confidence than the lumbar incision did in some instances.

Dr. BRYSON said he had come to the conclusion that there was no such thing as a symptomless renal tuberculosis. Before undertaking any operative measures in these cases we must bear in mind how frequently this condition was only a local manifestation of a general disease. He agreed with Dr. White that complete nephrectomy was preferable to resection, as suggested by Dr. Watson.

Dr. N. B. CARSON, of St. Louis, referred to the danger of interfering in localized tuberculous trouble. To illustrate this, he reported the case of a young woman who for many years had had a localized tuberculous lesion in one knee-joint. She entered a hospital, where the joint was opened and everted; soon afterward it became necessary to amputate the leg above the knee, and about six weeks later the patient died, presumably from acute tuberculosis.

Dr. BROWN said that local interference should be undertaken in renal tuberculosis only when it was absolutely called for, and then only with the greatest care. He expressed the opinion that if there were adhesions, the abdominal, intraperitoneal, route was preferable; otherwise, he was inclined to favor the lumbar route. He did not think the abdominal incision would be of much service in determining the condition of the opposite kidney.

**Some Forms of Non-obstructive Ischuria.**—Dr. ALEXANDER W. STEIN, of New York, stated that inability to empty the bladder might be due to: 1. Atony of its muscular parietes. (a) Deficient contractile power of the so-called detrusor from overstretching of its fibres; the duration was usually temporary. (b) Loss of power of the detrusor from atrophy and fatty metamorphosis; the duration was permanent. 2. Neurotic retention. (a) Deficient power of the detrusor as a concomitant of some psychical or functional disturbance of the nerve centres; the duration was temporary. (b) Paresis or cystoplegia from organic derangement of the nerve centres; the duration was usually permanent. 3. Spastic or reflex retention from irritation of some neighboring organ; it disappeared with the cause that induced it.

The degree of atony which resulted from overdistention of the bladder might vary from a slight and temporary impairment in the expulsive power of the organ to a complete and permanent inability to empty its contents, depending upon the age and health of the person, the condition of the bladder, the degree of distention, and the length of time the detrusor fibres had been upon the stretch. In the aged and feeble this condition was



not uncommon, and permanent disability of the viscus often results from a single inattention to its behests. In the young and robust atony was much less frequent, and the bladder, once relieved of its burden, regained its functional activity. Dr. Stein reported a number of cases of atony of the bladder which had come under his observation.

**Two Cases of Prostatectomy. Prostatectomy after Castration.**—Dr. JOHN P. BRYSON, of St. Louis, reported these cases. The first case was one of prostatic overgrowth in a man, eighty years of age, who, forty years before, had had an attack of mumps which had been complicated by an orchitis which completely destroyed the left testis. The right testis was normal in size and consistence. Prostatectomy was performed on July 18, 1895. The operation disclosed the fact that the left lobe of the prostate (which was the one corresponding to the atrophied testis) was larger than its fellow. The largest mass of prostatic tissue was removed from the left side.

The second case reported was one where prostatectomy had been done a year after double orchidectomy for prostatic overgrowth. The patient was a man sixty-four years of age. Double orchidectomy was performed on April 8, 1895. On the sixth day after the operation the patient reported that he felt better. He continued to use the catheter until the end of June, when there was only a small quantity of residual urine. He had gradually regained the power of voluntary urination, and had no longer been troubled with nocturnal frequency. The bladder had been irrigated once daily, at bedtime. On January 20, 1896, he had an attack of complete retention and he again became entirely dependent upon his catheter. An examination of the prostate made on April 30, 1896, failed to reveal any change in its size, shape, or consistence. The urine had become decidedly purulent, and the walls of the bladder were inflamed and showed numerous small pockets, one of which had contained a calculus. On May 1, 1896, suprapubic cystotomy was performed, and the calculus removed, together with a large mass of prostatic tissue. The patient made a satisfactory recovery from the operation, but on May 26th he died suddenly of a mitral lesion. In that case the prostate had not been reduced in size by the castration which had been done twelve months previously, and a microscopical examination of it had failed to show any evidence of degenerative changes. Dr. Bryson exhibited a number of gross and microscopical specimens.

Dr. WHITE said the case reported by Dr. Bryson formed a valuable addition to the knowledge of what were gradually acquiring as to the certainty or uncertainty of the result of castration for enlarged prostate. When he had introduced this operation he had done so cautiously and with the hope that it would not be indiscriminately performed. We must study our cases carefully, and decide which were favorable for castration and which for prostatectomy. The speaker expressed the opinion that the operation of castration for enlarged prostate had come to stay, and that there would always be cases suitable for it.

Dr. CABOT said that in the beginning, at least, the operation of castration for prostatic overgrowth had been performed too promiscuously, in spite of the fair manner in which Dr. White had presented the subject. It was very important that we should arrive, as soon as possible, at a clear understanding of the fact that the operation was not a trivial one, as had at first been believed.

The speaker expressed the opinion that the mortality was due to the condition there was to deal with, and the question in a given case was, Which operation would relieve the condition with the least added danger, castration or prostatectomy? The drainage which was instituted after prostatectomy immediately relieved the bladder and the kidneys, while after castration the relief was more gradual. The kidneys might stand the strain or they might not, and this was probably the chief factor in the fatal cases that had occurred. Another factor was that the testes no doubt exerted some tonic influence on the nervous system, and the cases of mania that had been reported following the removal of these organs had probably been due to this fact. Dr. Cabot had expressed the opinion that shrinkage of the prostate after castration was an established fact. It was difficult to understand what changes occurred in the organ, as the microscopical examinations thus far made had proved very unsatisfactory.

Dr. FULLER said it would be interesting to ascertain just what constituted prostatic hypertrophy. He had noticed that in some cases the prostatic tissue was enucleated very readily, while in others it was a difficult matter to remove it.

Dr. BELL said that the more we discussed the subject, the more clearly were we brought face to face with the fact that the immediate cause of death in all these prostatic patients, no matter which operation was performed, was a form of toxæmia. This toxæmia, which was probably responsible for the mental symptoms and the mortality, was something about which very little was known.

**The Duration of Acute Gonorrhœa.**—Dr. H. M. CHRISTIAN, of Philadelphia, read a paper on this subject, in which he stated his conclusions as follows: 1. Gonorrhœa was a more prolonged and serious disease than it was generally considered. 2. In two thirds of all uncomplicated cases the period of time necessary to effect a cure was from six to ten weeks. 3. In that small proportion of cases where the entire urethra did not become involved, the disease being confined to the anterior urethra, we could expect a complete recovery in four weeks. 4. It was important to make an examination of the urethra before pronouncing a gonorrhœa positively cured.

Dr. WILLIAM JUDKINS, of Cincinnati, said that Dr. Christian's paper would prove of interest both to the specialist and to the general practitioner. It was astonishing in how brief a period of time some physicians could cure gonorrhœa, judging by their own statements. He had heard of one man who alleged that he cured the disease in ten days with bicarbonate of sodium.

## SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

*Meeting of April 1, 1896.*

The President, Dr. PARKER SYMS, in the Chair.

**Malignant Pustule of the Face.**—Dr. J. F. ERDMANN presented a case of this kind (see page 213).

**Two Cases of Traumatic Aneurysm Treated by Ligation and Extirpation of the Sac.**—Dr. J. S. HOWELL reported the cases (see page 215).

Dr. ERDMANN said that he had been reminded by the first case reported of one he had seen at the workhouse—in a man who had received a punctured wound of the femoral artery and vein. This had resulted in an arterio-venous fistula, with an aneurysm of the size of a small



egg. It had gradually increased in size, and finally the femoral artery had been ligated by him both above and below the aneurysm. This had been followed by gangrene, and still later by amputation and death. He was therefore anxious to know why Dr. Howell had ligated both the vein and the artery.

Dr. HOWELL replied that both the vein and the artery had been completely perforated, hence he had felt compelled to ligate the vein also. As the two wounds were opposite to each other, a lateral ligature would have been likely to unduly occlude the calibre of the vein. Still another reason was that considerable time had elapsed since the injury, and therefore there had been ground to believe that some collateral circulation had been already established.

**Pulmonary Hæmorrhage** was the subject of a discussion by Dr. R. J. CARLISLE (see page 216), Dr. JOHN WINTERS BRANNAN (see page 218), and Dr. CHARLES E. QUIMBY (see page 154).

Dr. J. WEST ROOSEVELT said that he should be compelled to disagree with a number of statements that had been made, and in doing this he would endeavor to point out certain important facts connected with the physics of the lungs. When he had begun the study of this subject, about nine years ago, he assumed that all were acquainted with the distribution of the blood through the lungs, but he had been astonished to find that there was nothing in English, French, German, or Italian bearing upon this subject prior to the work of Hewitt, published in 1890. The anatomy of the pulmonary blood-vessels between the main divisions of the pulmonary arteries and veins and the alveoli had been an unknown field up to that time. Dr. Roosevelt then presented a beautiful corrosion specimen illustrating the distribution of the blood through the lungs, and also a specimen of lung which had been rendered transparent by first bleaching it with peroxide of hydrogen and then filling it with a mixture of oil of cedar and oil of cloves—in other words, with a substance having the same index of refraction. This latter specimen was interesting as it illustrated the remarkable ramifications of these blood-vessels. One of the bronchi in the specimen had been filled with air so as to indicate the amount of tissue in which extravasation of blood might occur. What happened in most cases of hæmoptysis was a purely bronchial hæmorrhage. It could be easily understood how much blood could be lost in this way when one recalled the amount of blood that could be lost by diapedesis in cases of hæmorrhage from the nose. It was well known that many cases of pulmonary hæmorrhage were not followed by serious symptoms. It was unsafe to make a diagnosis of phthisis until at least a week had elapsed after such a hæmorrhage. The hæmorrhage from a bronchus sometimes filled part of a lobe with blood, thus giving rise to the physical signs of phthisis or of pneumonia. It was also accompanied by fever, and other symptoms of constitutional disturbance. In the majority of cases of initial hæmorrhage the hæmorrhage itself was not of great importance; there was far more danger of injuring the patient by too active treatment of the hæmorrhage than from the hæmorrhage itself. A case of hæmoptysis, even to the extent of a drachm, in an adult who had had a cough that had not begun with a coryza, and that had been associated with clear or whitish expectoration, with slight dullness and change of respiration at one apex, was almost certainly tuberculous, provided mitral disease and aortic aneurysm could be excluded. On the other hand, there might be quite a

profuse hæmoptysis in a person without previous cough or expectoration. Here one must not trust too much to the physical signs, and should not form an opinion as to the significance of the condition until some little time had elapsed. He could not say that from actual careful observation we were justified in assuming the correctness of the theory that there were small aneurysms in the blood-vessels of the lungs, or that hæmorrhage from a bronchus indicated vascular degeneration, or anything else than tuberculosis. Above all, he could not say that the mechanical cure suggested for it by Dr. Quimby presented the true physical conditions. During expansion of the lung the artery was drawn down longitudinally and more or less compressed, and the pressure was removed from the vein as the lung expanded, even though a positive pressure were brought to bear upon the lung. The pressure on the outside of the body might be reduced to a considerable extent, yet the pressure on the lungs would still remain fifteen pounds to the square inch; reduction of pressure never did more than affect the differential pressure. The lungs, whether expanded little or much, reacted just sufficiently to counterbalance the pressure of the atmosphere—i. e., fifteen pounds pressure to the square inch. In incipient phthisis, in cardiac disease, or in any condition not associated with cavities in the lungs, or with aneurysms, the hæmoptysis was rarely of itself of much importance. In the other cases where there was a hæmorrhage into a cavity, there was no power which could alter the fate of that patient. It was not to the hæmoptysis itself, but to the condition which it represented, that our attention should be especially directed. Pulmonary hæmorrhage seemed to him of interest more because of its diagnostic and prognostic importance than from its significance *per se*. Regarding pulmonary infarctions, he said that the wedge-shaped area would always be produced in animals if the lung were slightly torn with a dull needle, and a little hæmorrhage thus produced. This simply meant that the blood had been effused around one large branch of a bronchus.

Dr. EGBERT LE FEVRE said that in considering the causes of hæmorrhage, the text-books usually took into consideration the effect of vascular tension. It was generally noted that patients who previous to the tuberculosis had suffered from certain diatheses were apt to have hæmorrhage. Sir Andrew Clark had first called attention to this, as a result of observations on hæmorrhages occurring in old people who were free from tuberculous and cardiac disease. This he had attributed to an "arthritic diathesis" with changes in the blood-vessels. Many of the patients having hæmorrhage had given marked evidence of rheumatism prior to the development of the tuberculosis. The anemia coming on in the early stage of tuberculosis caused changes in the blood-vessels which predisposed to hæmorrhage. He had been greatly interested in the specimens presented by Dr. Roosevelt. It was a singular thing that cough and expectoration were not observed in cases of cardiac disease so long as there was a compensating hypertrophy in the right heart, but that these symptoms developed as soon as the compensation was incomplete. The anatomy of the blood-vessels apparently offered a plausible explanation of this fact. In two cases of fatal initial primary hæmorrhage that he had seen, in which there had been slight physical signs, the condition of the lung had been that of a pulmonary infarction, and the blood had apparently come from the small vessels, and not from the large vessels situated in the bronchi. Regarding the

treatment, the speaker said that where the hæmorrhage was due to erosion or rupture of a large vessel stretching across a cavity, he knew of nothing but Nature's effort at lowering arterial tension which was likely to be of much service. Where the hæmorrhage was from the smaller vessels he was accustomed to use the opium treatment, and also to reduce the arterial tension to as low a point as seemed safe. For this purpose he gave aconite in repeated doses until the desired effect had been produced. He would like to ask whether Dr. Roosevelt had found that the relation between the tension of the general systemic circulation and that in the pulmonary artery corresponded. Experiments had been carried on to show that the equilibrium of the pulmonary circulation could be disturbed with difficulty, although there might be a marked change in the systemic circulation. If this was true, it certainly excluded a number of drugs that had found much favor in the treatment of pulmonary hæmorrhage. The tendency of primary attacks was to arrest or recovery.

Dr. ROOSEVELT said that he could not reply definitely to the question just propounded, for he had made no researches in that direction.

### Book Notices.

*The Fundus Oculi.* With an Ophthalmoscopic Atlas illustrating its Physiological and Pathological Conditions. By W. ADAMS FROST, F. R. C. S., Surgeon to the Royal Westminster Ophthalmic Hospital, etc. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co., 1896. Pp. xviii-228. [Price, \$18.]

MR. FROST has here given to the medical profession a work which is a pleasure to look upon and an equally great pleasure to read. The book is a folio of two hundred and twenty pages of letterpress, illustrated by forty-six figures in black and white, of exquisite workmanship, representing macroscopically and microscopically those parts of the eye which we see with the ophthalmoscope. Bound up in the same volume are forty-seven large colored plates, containing one hundred and seven figures, beautifully drawn and colored, representing the fundus of the eye as seen with the ophthalmoscope.

The work is divided into two parts, physiological and pathological, and an unusual amount of space has been devoted to "physiological variations." The drawings of the fundus are admirably adapted for teaching purposes. They have all been executed from Nature by an artist, under the direct supervision of Mr. Frost, and, with the exception of one plate, were all made by the direct method of examination and by artificial light. The unit for the standard of measurement chosen is the diameter of the optic disc. To facilitate measurements of this kind, the author has designed a fundus-gauge, consisting of a rectangular network of fine wires which, when attached to an ophthalmoscope, throws its shadow on the fundus, thus mapping it out into squares.

Part I is devoted to a consideration of the subject of physiological variations, including developmental irregularities. It fills eighty-four pages of the text and is divided into five chapters.

The first chapter treats in a general way of the normal fundus, including sclera, chorioid, and retina.

The second chapter treats of the optic disc in all its relations.

The third chapter considers the retinal vessels.

The fourth chapter describes the macula lutea.

The fifth chapter describes the various developmental irregularities.

This physiological part is illustrated by numerous black and white illustrations, and by fourteen large colored plates with thirty-nine figures. Considerable space is given to a consideration of the subject of the normal pigmentation of the fundus, with its many irregular variations. The chapters on the normal disc and retina are very full, and the description of the method of formation of coloboma of the chorioid is very clear. The author calls special attention to what he calls "congenital crescent of the disc," and thinks it due to an uneven distribution of the tissue of the lamina cribrosa. He thinks this condition is sometimes erroneously considered as a coloboma of the chorioid, which term should be confined to those extreme types which depend on non-closure of the cleft at the lower part of the nerve in foetal life. Fig. 34, on page 82, might easily be mistaken for a glaucomatous excavation of the disc.

Part II is devoted to a consideration of the pathological conditions of the fundus, and a large space is devoted to affections of the chorioid. Mr. Frost calls attention to the discrepancy which exists between the number of vessels in its tissue and the number of the ciliary arteries which supply it, and makes the point that its circulation must be sluggish. He thinks this explains the great liability of the chorioid to degenerative processes and chronic inflammation. The author's remarks on "choked disc" are interesting and instructive. He thinks that pathological evidence is against the theory of venous obstruction behind the globe or of compression exercised by the scleral ring, and believes that the venous obstruction is secondary to inflammatory changes in the disc, and that the pressure is exercised by the inflammatory products within the head of the nerve.

The author's remarks on retinal hæmorrhages, on page 168, are open to criticism, especially with reference to the condition of the blood-vessels outside the eyeball. *Per contra*, on page 174 there is an admirable distinction made between arterial embolism and arterial thrombosis, though the ophthalmoscopic signs may be identical. In embolism, the subject of collateral circulation has always excited great interest and has given rise to much discussion. It has been repeatedly inferred from clinical evidence, but it has never been proved to exist post mortem, and Mr. Frost is inclined to doubt its existence. In discussing the subject of thrombosis of the retinal veins, the author again brings up the matter of papillitis by asserting that it is often caused by thrombosis.

Chapter XI contains a most excellent description of the various punctate conditions of the fundus which have at different times been described by authors, such as Tay, Gunn, Nettleship, Mooren, Masselon, and others. A brief account is also given of the so-called "angioid streaks" of the retina, illustrated by two perfect black and white pictures.

The colored plates are extremely well drawn and printed and are a noble complement to the work.

The publishers have outdone themselves in their part of the publication. The paper is thick and heavy and but slightly glazed. The type is beautifully clear and as large as No. 9 of Jaeger's test types, so that literally "he who runs may read." Mr. Frost is to be congratulated upon the manner in which he has done his part.



Such a work must of necessity be expensive, and the price of the book must make the number of readers limited.

*A Text-book of Bacteriology.* By GEORGE M. STERNBERG, M. D., LL. D., Surgeon General, United States Army, Honorary Member of the Epidemiological Society of London, etc. Illustrated by Heliotype and Chromolithographic Plates and Two Hundred Engravings. New York: Wood & Company, 1896. Pp. xi+693. [Price, \$5.50.]

THIS text-book, justly recognized as the leading treatise upon this subject in the English language, has been extensively revised, curtailed in some departments and extended in others, and now, in its second edition, most admirably adapts the advances in bacteriology to the wants of students and practitioners, and meets equally well the requirements of pathologists. The extensive tables prepared in the first edition for use in bacteriological diagnosis have been omitted. Without denying the value of these tables as seen in the first edition it may justly be said that they were insufficient for the identification of many species. A short practical experience in bacteriological diagnosis would convince any one that the separation of species requires, in the majority of instances, minute and extensive descriptions of biological properties, and that these alone will fill a large volume.

Other chapters have been correspondingly enlarged, and in a volume of less bulk and of less expensive preparation the entire subject is most completely presented.

Bacteriological technics is the subject of one hundred pages in which the newer culture media and bacteriological apparatus are fully described and illustrated.

A considerable section is devoted to the photography of bacteria, and the methods and apparatus are described by which the striking advance of the last three years in this branch have been achieved.

Important additions have also been made in the second part, on general biological properties of bacteria.

The chapter on susceptibility and immunity has been largely revised to incorporate the results of extensive researches of the past four years, and undoubtedly presents one of the ablest short discussions of this obscure and important subject anywhere to be found. The theory of phagocytosis is more fully discussed than before, and the views of Metchnikoff are reproduced at length. It will be seen from the following quotation from Metchnikoff's conclusions and the author's comment thereon that the evidence of recent investigations has permanently established the partial truth of the phagocytic theory:

"It is not possible at the present time to state fully and accurately all the influences which are associated in aiding phagocytic action, but already we have the right to maintain that in the property of its ameboid cells to include and to destroy micro-organisms, the animal body possesses a formidable means of resistance and defense against these infectious agents." We are disposed to agree with Metchnikoff in his final conclusion as above stated in italics. But in view of experimental evidence to be referred to later, we can not accept the so-called Metchnikoff theory as a sufficient explanation of the facts relating to natural and acquired immunity in general, and must regard phagocytosis simply as a factor which in certain infectious diseases appears to play an important part in enabling immune animals to resist invasion by pathogenic bacteria."

The "further experimental evidence" above mentioned refers to the immense number of isolated facts now accumulated in regard to the immunity against and the disposal of bacterial and chemical poisons in the organism, problems to which the phagocytic theory is at present an imperfect solution.

In the discussion of the pathological properties of well-known species, it would seem that the author has incorporated every important research of the past few years up to the date of going to press. For instance, Elsner's method of diagnosis of the typhoid bacillus is described, and even more recent experiments supporting Elsner's statements and the reliability of his method are reported. The very important work of Janousky on the pus-producing capacity of many species recently regarded as non-pyogenic is duly emphasized. The descriptions of other pathogenic species are equally complete, with reference to very late publications. Less common pathogenic species are fully described, as before, and a considerable number of recently discovered forms have been added.

Several new photomicrographs and lithographic plates, all of which are very successfully executed, greatly add to the effectiveness of the descriptions.

It is everywhere apparent that the revision of this work, equally with its original production, shows the high scholarship and ability of the author.

Not only does it fulfill the requirements of the bacteriologist, but no practitioner can consider himself abreast with the times without familiarity with the contents of several of its chapters.

The work can therefore be recommended without reserve to all classes of readers.

*Borderland Studies.* Miscellaneous Addresses and Essays pertaining to Medicine and the Medical Profession, and their Relations to General Science and Thought. By GEORGE M. GOULD, A. M., M. D., etc. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. 11 to 384. [Price, \$2.]

IN this most attractive volume, Dr. Gould has given his many friends and admirers an opportunity to spend a few hours of delightful reading. The contents of the book consist of editorials from the *Medical News* and of addresses and essays read before societies and published in reviews. They are characterized by the honesty of purpose, the love and zeal for professional integrity, the admiration for system in nature with which Dr. Gould's readers have long been acquainted and which they always expect from him. In his essays there appear that same fearlessness and chivalry, that striving for improvement, and that longing for health in the body politic and professional that have ever marked his editorial utterances. Dr. Gould brings us very near to nature and to ourselves, and it is largely the truth of his writings and the incisiveness of his pen that lend a charm to the essays under consideration. In his condemnation of fraud and trickery there is none more bitter, in his praise of the true and good none sweeter, than Dr. Gould. If it is possible, *Borderland Studies* can only enhance the author's reputation as a student, as a thinker, and as a writer.

*A Manual of Anatomy.* By IRVING S. HAYNES, M. D., Ph. B., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of the New York University, etc. With One Hundred and Thir-



ty-four Half-tone Illustrations and Forty-two Diagrams. Philadelphia: W. B. Saunders, 1896. Pp. 11 to 680. [Price, \$2.50.]

A MANUAL of anatomy for the use of students in the dissecting room should consist of a brief but accurate description of all the structures which can be seen by the dissector, arranged in the order of their dissection, together with a full description of the best method of exposing each structure and preserving its normal relations. In this Dr. Haynes has been most successful. The arrangement is excellent and the descriptions are brief, clear, and forcible. He is especially to be congratulated on his able presentation of that most difficult subject, the peritonæum. By a judicious reference to the development of this membrane he is able to explain many points always difficult of comprehension and never thoroughly understood by many students.

Another desirable feature, however, of such a manual, and one which is thoroughly appreciated by all beginners in the study of anatomy, is a judicious selection of clear, sharp, and well-defined illustrations which exhibit in the most striking manner the structures and their relations. In our opinion, this can never be accomplished by the reproduction of photographs. The dissections from which many of Dr. Haynes's photographs were made were evidently prepared with the greatest care and give evidence of skillful and painstaking work, yet for the use of students they are vastly inferior to the cuts found in Gray or Quain. Although the experienced eye might be able to recognize the different structures shown in Figs. 82, 83, 86, 126, and 127, for instance, they are certainly too indistinct to convey much to the mind of a student making his first dissection.

*Quain's Elements of Anatomy.* Appendix: Superficial and Surgical Anatomy. By Professor GEORGE D. THANE, of University College, London, and Professor R. J. GODLEE, M. S. Illustrated by Twenty-nine Engravings. Tenth Edition. London, New York, and Bombay: Longmans, Green, & Co., 1896. Pp. 76.

THE editors of Quain's work have endeavored, in their tenth edition, to present to the medical profession the most comprehensive and exhaustive treatise upon the subject in the English language. The work, however, would have been incomplete had they omitted to prepare their recently published appendix on Superficial and Surgical Anatomy. In this small volume they have ably and concisely presented the important facts bearing upon the subject, leaving out a large amount of unimportant material usually included in a treatise of this kind.

In fact, the only criticism which can justly be urged against the work is that it is at times so abridged as to be almost defective. In the section, for instance, devoted to the surgical anatomy of the mastoid, it seems to us that the editors should have added a paragraph describing the variations from the normal adult conditions found during childhood and early youth, periods at which disease of the mastoid requiring surgical interference is especially prevalent. The chapter on the neck also might with advantage be somewhat amplified. Had the editors added a few words on the blood supply and the relations of the thyroid gland, it would have been appreciated by the young tracheotomist or the surgeon about to undertake his first thyroidectomy.

The chapter devoted to the structures found in the

groin and the descriptions of the surgical anatomy of inguinal and femoral hernia are especially to be commended. Several new and excellent cuts have been introduced which clearly illustrate the facts brought out in the text.

The structures of the perinæum in the male receive appropriate attention, and a short chapter is added upon the examination of the pelvic viscera in both sexes.

The book is well arranged, well written, and well illustrated. It is a valuable and practical conclusion of an excellent work.

*Sterility.* By ROBERT BELL, M. D., F. F. P. S. G., Senior Physician to the Glasgow Hospital for Diseases Peculiar to Women. London: J. & A. Churchill, 1896. Pp. vi-9 to 88. [Price, \$1.75.]

THIS monograph can not be seriously regarded except in so far as it expresses the individual views of the writer, which are in many respects opposed to the belief generally prevailing. Unquestionably the author is correct in attributing sterility in many cases to endometritis, but he vitiates his position by refusing to acknowledge the rôle that flexions play in the production of catarrh of the uterine mucous membrane. Though he admits that stenosis of the internal os frequently coexists with a sterile condition, he is unwilling to acknowledge that dilatation may be followed by pregnancy, attributing, as he does, the narrowing of the canal to endometritis. In this respect the author's position makes one believe that his logic is deductive rather than inductive.

The chapters on dysmenorrhœa and diseases of the uterine annexa are well written and conservative, but the discussion of curetting is calculated to produce an impression of tremendous hazard in the performance of this operation. It may be well to remark that Bell does not regard the ovule—or "ovum," as he calls it—in the usually accepted physiological light. He believes that the "ovum" has for its sole function the providing of the only pabulum upon which the spermatozooids can possibly subsist, and that it is the male element, thus endowed and nourished, which develops into the embryo. This new assumption of prerogative on the part of the male is worthy of the consideration of a woman's suffrage convention.

The bookmaking is fair and the proofreading excellent; but the monograph is not destined, despite its author's position, to attain scientific prominence.

*Elementary Anatomy and Surgery for Nurses.* A Series of Lectures delivered to the Nursing Staff of the West London Hospital. By W. McADAM ECCLES, M. S. Lond., F. R. C. S. Eng., Assistant Surgeon to the West London Hospital, etc. London: The Scientific Press, Limited, 1896. Pp. xv-158. [Price, 2s. 6d.]

THIS little volume consists of the substance of a course of lectures delivered by the author to the nurses of the West London Hospital. While many of the salient points of these subjects are taken up and ably discussed, there is a conspicuous absence of much information which it is highly essential that a well-trained surgical nurse should possess.

The book would have been much more useful had more space been devoted to methods of preparing sterilized dressings and ligature and suture material, and less to the origin of the spinal nerves and minute descriptions of the organs of special sense.

## Miscellany.

**The Continued Fever of Jerusalem.**—The *Lyon médical* for July 19th contains an article on this subject by M. Friess, who remarks that one of the many curious facts which attract the physician's notice on his arrival in Jerusalem is the frequency of intermittent fevers. The city is situated on a plateau which overlooks the surrounding country, at an elevation of twenty-six hundred feet; there is no stagnant water around the city, there is a complete absence of verdure and water courses, and there are dryness and desolation everywhere. Under these circumstances, says the author, the origin of the malarial troubles which exist all the year round, especially during the dry season, which lasts from April to December, can be attributed only to the cisterns, which are rendered necessary by the absence of water courses. These cisterns catch the water which falls from the roofs and the terraces during the rainy season, and they contain a large number of foreign bodies carried into them by the wind. The question, says M. Friess, as to whether the infection is due to something taken in with the breath or to ingestion of the water remains to be settled. The latter mode, however, is admitted to be very frequent, and as a cause of malarial infection the subject is by no means a new one, for many authors have not hesitated to condemn water as a vehicle of pathogenic agents. This, however, can not be proved absolutely; on the other hand, it is just as difficult to prove that the infection is due exclusively to air, because those who breathe this infected air also drink the water. Be that as it may, says M. Friess, malarial affections exist, and it is not to be doubted that the cisterns may be a medium of culture favorable to the development of malarial microorganisms. They are like malarial swamps in which the water becomes stagnant and changed, especially when the water is not deep enough, or when they are not subjected to a thorough cleansing.

The commonest form of fever in Jerusalem, says the author, is the intermittent, but there is another form which is continued, and it may at first be confounded with typhoid fever. The question as to whether this form of fever is purely of paludal origin can be answered only by microscopical examination, for in the Orient the religious laws absolutely forbid autopsies. The author says that he is convinced that this continued fever of Jerusalem belongs to the same class as the intermittent fevers, and that the cisterns are the cause of both forms of fever, for there is a great affinity between the two varieties. The patient attacked by one of these forms may find himself at a given time, in consequence of secondary reasons, under the predominating influence of the cause which engenders the other form, and in this way he passes from the intermittent form to the continued form, and *vice versa*. But the primitive pathogenic agent, says M. Friess, does not seem to be the same, and he is inclined to think that the continued fever of that country is due to a peculiar malarial poisoning.

This fever occurs at all times of the year, but especially during an epidemic of endemic affections. Age, sex, or individual conditions have no special action; those who are acclimated, as well as strangers, are attacked. Sometimes the duration is short, but ordinarily the affection is characterized by a long duration, by transformations, by the absence of complications which,

when they do exist, are of slight importance, by a hyperthermia which is often considerable, by a remarkable benignity, and by resistance to treatment with quinine. The duration can not be even approximately estimated, for in some cases at the end of five or eight days defervescence occurs suddenly or progressively. At other times the elevation of temperature continues for two, three, or four weeks, or even longer. The onset of the disease sometimes occurs suddenly with a severe chill; but, on the other hand, it may become prolonged from several neglected attacks of intermittent fever.

Defervescence often occurs suddenly, the temperature falling from 104° to 96.4° F. without critical symptoms; at other times it takes place gradually; again, after a more or less extended period of apyrexia, the temperature rises and veritable intermittent attacks are observed. The temperature ordinarily varies between 100.2° and 101°; occasionally temperatures of 104°, 105.4°, 107.3°, and even more have been observed. In one case the temperature, which was taken with different thermometers, rose to 109.2° without any complications. Cephalalgia was moderate, there was no dyspnea, the pulse was 120, and the general condition was not alarming. This temperature lasted for several hours, but it yielded easily to the employment of cold baths.

Complications are usually rare. Sometimes slight bronchitis and vomiting are observed. When the fever is high there may be some delirium, but under the influence of symptomatic treatment the fever is lowered and the delirium disappears. It is remarkable, says M. Friess, how, with such a high fever, the patient is in a comparatively satisfactory condition; there is no pain, cephalalgia is moderate and sometimes absent, and the appetite is good. The tongue is occasionally white and swollen, and the edges are not red; sometimes it is normal. Ordinarily there is constipation. Palpation of the abdominal organs does not provoke pain. There is no gurgling in the iliac fossa, and the dullness of the splenic region is not increased. Frequently the disease does not manifest itself except by a slight diminution in strength and by the prolonged elevation of temperature.

This fever, in the large majority of cases, terminates in recovery. Convalescence is of short duration, and relapses are not to be feared. It is astonishing, says M. Friess, to see how few traces there are of the disease after a patient has been in bed a month.

Large doses of quinine employed for a long time, in hypodermic injections or by the mouth, do not seem to have the least influence on the duration of the disease. The author has given as much as sixty grains of quinine sulphate in a day without obtaining satisfactory results; indeed, such quantities only provoke gastro-intestinal troubles and increase adynamia. Tonics and a methodical diet form the basis of the treatment. Hyperthermia is the principal symptom to be combated. M. Friess has given up the use of antipyrine, because it causes profuse sweating, which exhausts the patient, and in these cases it scarcely exerts any antipyretic action. Cold baths have given the best results. If, during convalescence, an attack of intermittent fever occurs, then quinine may be successfully employed.

**Rhachialgia of Hysterical Origin simulating Pott's Disease.**—In the July number of the *Annales de la polyclinique de Bordeaux* there is an account of a case which came under the observation of M. Gendron and M. Brunet. The patient was a child, nine years old, who suffered with pains in the spinal column. The family history was good, with the exception that a cousin



had Pott's disease in the dorso-lumbar region. The child had been reared under bad conditions; she had been badly nourished from birth and had been allowed to eat solid food at an early age. Her abdomen was swollen and there were undoubted signs of very pronounced rickets. She had never been subject to any of the diseases common to childhood, but for a year she had experienced pains in the spinal column, which were particularly pronounced in the dorso-lumbar region.

An examination was made and it was ascertained that pressure on the spinous processes at the level of the last two dorsal and of the first three lumbar vertebrae caused acute pain. Pressure was also painful over the right transverse processes of the corresponding vertebrae. On the left side nothing peculiar was observed. This exaggerated sensibility extended to the right of the vertebral column, independent of all definite nervous distribution, over a surface as large as one's hand. Pressure on the skin and on the superficial muscular masses only caused a sensation which was as acute as that caused by pressure on the bony apophyses. On the other hand, pressure on the top of the head did not give rise to any symptoms in the lumbar region. The movements of the lumbar column, extension, flexion, and lateral flexion were not at all restrained, and were produced without any stiffness. Under these conditions, the authors state, they were obliged to reject the diagnosis of Pott's disease, which at first had seemed the proper one.

Questioning the parents elicited the fact that the symptoms had shown themselves after violent emotion; that on one occasion, after an accident had happened to her father, an eruption had broken out over the child's body, but had disappeared in a few hours without treatment. Since then, analogous eruptions had occurred about every month. She was also subject to nightmare, became angry very easily, and cried profusely without any special reason.

The first pains in the spinal column were coincident with the first eruption; they were not ordinarily very acute, but the least shock, the least pressure on the spinal column would cause an exquisite pain. There was no trouble with the general sensibility; the pharyngeal reflex was completely abolished. Treatment was instituted which consisted principally in the employment of hydrotherapy.

The authors' conclusions are as follows: Undoubtedly hyperaesthesia in the region of the lumbar spine does not afford a sufficient reason to admit the existence of Pott's disease, especially when the other symptoms of the affection are entirely absent; but it is well, nevertheless, to be careful, for a superficial examination of a patient may lead to an error. An interesting point to be noted is the fact that the child's cousin suffered from Pott's disease and that the disease had developed simultaneously in both. The possible contagion of tuberculosis and the predisposition caused by common heredity are arguments which may be advanced in favor of the identity of the nature of the two affections. In this instance, however, it is doubtful, for in one case Pott's disease was evident, while in the other only the subjective symptoms were observed. Under these circumstances the question may be asked, whether it was not a case of simulation, or, rather, unconscious suggestion. The patient had the latent germs of a neurosis, which manifested themselves on the occasion of violent emotion, and the frequent reference to her cousin's health caused a vivid impression on her mind and gave rise to

an outbreak of painful symptoms which were identical in appearance only with those of Pott's disease.

**Kissing the Bible in Courts of Law.**—The *Australasian Medical Gazette* for June says: Dr. G. H. MacSwinney, of Stannmore, created no little sensation in the Sydney Divorce Court recently by refusing to kiss the Bible, when called upon to give evidence before Mr. Justice Simpson. He asked permission to make an affirmation instead of applying his lips to a book which had been kissed by all sorts and conditions of men and women.

His Honor: You object to kiss the book? What is your religion?

Dr. MacSwinney: I am Church of England. I do not object to take an oath, but I object to kiss the book.

Mr. Armstrong (the counsel who had called Dr. MacSwinney) suggested that witness should be allowed to take a "corporal oath," by holding the Bible in one hand and raising his other hand.

Dr. MacSwinney: That is always done at home when such an objection is raised.

His Honor: Never mind what is done at home. You don't object to take the oath? I suppose that if you had a nice new Bible you would not object to kiss that in the ordinary way?

Dr. MacSwinney: I would not.

His Honor: You only object to kiss a book which everybody may have kissed?

Dr. MacSwinney: Yes, your Honor.

Mr. Armstrong: I remember seeing a report of a Witnesses' Protection Society, which suggested that it would be a good thing if all witnesses objected to kiss the book.

His Honor: That might be a good thing from a medical point of view, but it would not be a good thing for getting on with the business.

Dr. MacSwinney: Nearly all the medical men in England object to kiss the Bible when being sworn.

His Honor: Never mind what the medical men in England do. *Medical men have a lot of fads.*

Dr. MacSwinney: This is no fad.

His Honor: The question is whether you can be allowed to make an affirmation when your objection to take an oath is not on conscientious grounds.

Mr. Armstrong urged that there were cases showing that a witness refusing to be sworn in the usual way could be sworn by holding the Bible in one hand and raising the other, or by making an affirmation.

Dr. MacSwinney, in reply to his Honor, said he had been about twelve years in the colony, and had probably given evidence twenty times before. He had always hitherto been sworn in the ordinary way.

His Honor: Then why have you taken this objection to-day?

Dr. MacSwinney: Because the question has been raised in medical circles at home, and it has been decided that witnesses may be sworn without kissing the book. I object to run the risk of getting any infectious disease. We know more about germs than we used to do.

His Honor: I wish you had taken this objection at some other time.

Dr. MacSwinney: I am sorry I have not done so before.

His Honor said that all evidence was *prima facie* given on oath, the witness being sworn by kissing the Gospel. Dr. MacSwinney could not be allowed to make an affirmation if he did not object on conscientious grounds to take an oath. The only objection the doctor



had was to kissing the book. The law only provided for persons who objected to take the oath from conscientious motives. A witness was sworn according to the ceremonies of his religion, as, for instance, a Chinaman was sworn by blowing out a match, breaking a plate, or in some other manner. Dr. MacSwinney belonged to the Church of England, in which the usual form of oath was by kissing the book. His Honor did not wish to decide off-hand an important point of this kind, but he would decide it, if pressed. He was not prepared at present to receive Dr. MacSwinney's evidence on affirmation. His Honor, in all his experience, had never known this point to be raised before. No doubt the point might be a good one on medical grounds.

Mr. Armstrong: Your Honor is aware this has been made a strong point among medical men in England.

His Honor: *Doctors talk a lot of nonsense.* They, of course, talk a lot of sense, too. If you want the evidence of Dr. MacSwinney, it would be worth while to send out and invest in a brand new Bible. Bibles are cheap enough, goodness knows! That would be the simplest way out of the difficulty.

A new Bible was sent for, and Dr. MacSwinney at once took the oath in the usual way.

Mr. Armstrong: I would like to press on your Honor that the doctor had a right to take a corporal oath.

His Honor: We can not take up time over that point now.

The case in hand was then proceeded with.

**To what Extent is a Pharmacist justified in Prescribing?**—This is the subject of an article by Mr. D. J. Thomas which is published in the August number of the *American Journal of Pharmacy*. The functions of the pharmacist, he says, are to compound and dispense physicians' prescriptions, and when he steps outside the realm of his vocation he transgresses the law regulating the practice of medicine. The medical law clearly defines the privileges of the physician, and in no part of the act does it extend to pharmacists the right to prescribe. It is an unwritten law, however, that under certain conditions pharmacists may exercise the functions of a physician very much as the wise old grandmother exercises this function when she says that catnip tea is good for babies. In cases of emergency—pending the arrival of a physician—a pharmacist may, from purely humane or philanthropic motives, prescribe and administer to the wants of a sufferer, and his rights in this instance may never be questioned. He sinks his identity and occupies the position of the good Samaritan.

The pharmacist does not possess the right to prescribe, simply because his knowledge of the physiological action of drugs is meagre and his power to diagnose disease is equally limited. His study and research are not along the same lines as those of the physician. He knows little or nothing of human anatomy, and very little more concerning the action of medicines upon the human system. He knows that acids sear and mucilaginous and oleaginous drugs mollify; but the mysteries of diagnosis place a barrier between him and the intelligent exhibition of the remedies he compounds with so much care, perfection, and accuracy. No pharmacist would trust his ability to such degree that he would exercise the functions of a physician to undertake the treatment of his own child afflicted with scarlet fever or any other serious disease. Why, therefore, should he usurp the right to play the rôle of physician in other cases? Is it because he has a lower estimate of a human life not

bound to him by the ties of relationship? The query is broad, inasmuch as it covers the moral and legal phases of the function of the pharmacist. Pharmacists should accord to physicians, without regard to its legal bearing, the privileges embodied in the Medical Act, and this carries with it nearly if not all the weight of the argument, viz., that pharmacists, *as such*, have no legal right and no qualification to prescribe, excepting, as previously stated, in such cases of emergency as demand immediate attention, and only pending the arrival of a physician; and in no event should they undertake the treatment of diseases, specific or otherwise, because they are fitted neither by education nor by moral or legal right to play the rôle of physician.

Mr. Thomas thinks there is a growing tendency on the part of pharmacists to recognize the rights of physicians, and that it is especially true since the enactment of the medical law. The pharmacists can not be accused, he says, of willfully trespassing upon the field of medicine prior to the passage of this act. They might be excused on the grounds that their jurisdiction was not clearly understood; but now the law clearly defines the offices of both pharmacist and physician.

It has been said, much to the discredit of the pharmacist, that he boldly and willfully exercises the function of a physician and defiantly disregards all ethical and legal laws that govern the two professions. However true this may be, it does not merit the condemnation of the medical fraternity upon all pharmacists. On the other hand, pharmacists should not condemn the entire medical profession for certain apparent irregularities committed by some who bring discredit and disgrace to their ranks. Pharmacists should, however, condemn and severely discountenance all transgressions of medical law by members of their profession. It has been intimated, but not fully authenticated, that in some instances pharmacists transgress the medical law to such an extent that they make gynecological examinations, and treat obstinate diseases of the eye, ear, nose, throat, urethra, and a score of other serious diseases that demand the attention of skilled physicians. These, however, are isolated cases, and very properly should be condemned.

In justice to the physician, and for the promoting of a more harmonious feeling between pharmacist and physician, says Mr. Thomas, the former should confine his attention to his own field of labor and not indulge in excursions into the field of the latter. The successful shoemaker sticks to his last, and it naturally follows that the pharmacist should stick to his pestle and mortar. Much of the criticism heaped upon the entire pharmaceutical profession is due to the reckless disregard of the rights of physicians by a few selfish and mercenary pharmacists. This self-sufficiency can not be too strongly condemned, and the members of the Pennsylvania Pharmaceutical Association should record their condemnation of such practice.

By closely observing the rights accorded to the physician under the act regulating the practice of medicine, much of the bitter feeling now existing between pharmacists and physicians will be dissipated and ultimately become a matter of history, and result in a warmer and more harmonious feeling between the two professions. Physicians are much criticised for their action in the matter of dispensing their own medicines. They defend their action by alleging that they have been forced into it by a custom established by the homeopaths, who universally dispense their own medicines. Some physicians state they have been obliged to do so by the phar-

macist who "counter-prescribes." This is one of the parasitic evils that cling to the profession.

Mr. Thomas recommends pharmacists to meet the physician more than half way, and thinks that by denouncing all transgressions of the latter's rights they will eventually establish themselves in the admiration of the medical fraternity, and give to pharmacy a higher position in their estimation.

**Latent Ulcer of the Stomach.**—The *Presse médicale* for July 25th contains the following account of a remarkable case of latent ulcer of the stomach, which came under M. Dieulafoy's observation: The first symptom which manifested itself was perforation; there had been no previous gastric symptoms, no dyspeptic troubles, and no vomiting of blood. The patient was a young woman who was apparently in good health, although about two months before she had complained of pain in the stomach, to which, however, she did not attach much importance. Her appetite was good, and she never complained of indigestion, and on the day that perforation took place she performed her usual work and appeared to be perfectly well. Shortly after dinner she was suddenly seized with a horrible pain in the epigastric region, and a physician was called. But he could not make an exact diagnosis, and, thinking that it might be a case of hysteria, prescribed for the patient an enema containing laudanum. On the following day M. Dieulafoy saw the patient. The pain was then somewhat mitigated, but it extended over the entire abdomen; the abdominal wall was tense rather than swollen, and the slightest touch or pressure over the abdomen was intolerable. The pulse was frequent, but the general condition was rather good; the expression of the face was not anxious, there were no peritoneal facies, no hicough, and no vomiting. However, M. Dieulafoy gave a diagnosis of generalized peritonitis, and the patient was immediately taken to the hospital, where an operation was performed. At the time of her admission the temperature was 101.6° F., and the pulse 120. The abdomen was swollen and tense. Median subumbilical laparotomy was practised, and when the abdomen was opened a stream of yellowish liquid escaped. The intestines appeared to be congested, and their surface presented creamylike false membranes of recent formation. The appendix was found to be in a healthy condition, and the genital organs were not involved; the seat of the peritoneal lesion was evidently the upper part of the abdomen. During the exploration the patient's general condition became so aggravated that it was not thought prudent to lengthen the incision and prolong the operation, so the abdomen was closed after the peritonæum had been subjected to lavage with boiled water. The patient died on the following morning.

At the autopsy the integrity of the appendix and the genital organs was verified, but on the anterior surface of the stomach, at a distance of about a centimetre from the small curvature, and at an equal distance from the cardia and the pylorus, a large perforation was found; it was of about the size of a fifty-cent piece, and its borders were not thick; there were no surrounding peritoneal changes. On the posterior surface of the stomach there were some adhesions which united it with the pancreas; these adhesions were very loose, and were easily torn away by the finger. They surrounded a second perforation, which corresponded exactly in size, shape, and situation with the first one. The appearance of these ulcers resembled the classic type of simple ulcer

of the stomach, and they had certainly existed a long time before perforation occurred.

It is incomprehensible, says M. Dieulafoy, how an ulcer which was serious enough to cause perforation could have remained completely indolent; it is possible, he thinks, that symptoms had manifested themselves at some time, and that they had been forgotten by the patient or neglected by those who observed them. M. Dieulafoy thinks that this case demonstrates that, in the presence of a sudden attack of peritonitis, the physician should not attribute it only to appendicitis, salpingitis, intestinal perforation, or perforations of the biliary tracts, but to perforations of the stomach as well, although there may be no history of previous gastric troubles. At the present time, he says, when surgical intervention in peritonitis is of daily occurrence, an early and correct diagnosis may, in favorable cases, assure the recovery of the patient.

**Eucaine as a Local Anæsthetic.**—In the *Lancet* for July 11th Mr. Robert Brudenell Carter, consulting ophthalmic surgeon to St. George's Hospital, London, remarks that Dr. G. Vinci, of Messina, described eucaine as possessing the properties of cocaine as a local anæsthetic, but as being less toxic and as having no effect upon the pupil. The last statement seemed to Mr. Carter to be of practical importance, because a dilated pupil is an impediment to the performance of many operations upon the eye. It has long been his practice, he says, to neutralize the dilating effect of cocaine by a preliminary application of eserine, but this course is not entirely satisfactory. It is difficult to secure the precise degree of effect desired, while the eserine dilates the vessels of the iris and occasions free bleeding when they are incised. It also renders the iris tissue comparatively rigid, so that it is less easily drawn out of the anterior chamber. Mr. Carter obtained a supply of a five-per-cent. watery solution of eucaine hydrochloride, and used it for a cataract extraction. Before his arrival the nurse had applied a drop of the solution within the lower lid every five minutes for six times, and he found the eye perfectly insensitive. The pupil was unaffected and acted readily to light. There was scarcely any bleeding from the cut iris, there was perfect quiescence of the muscles, and there was no pain. He asked the patient whether she had felt anything, and she replied: "I felt something moving about my eye, but it did not hurt me." There was no pain afterward and healing was uninterrupted. He has since successfully used a single application of the same solution as a preliminary to the removal of a foreign body imbedded in the cornea.

In the original paper, it is said that eucaine has been successfully used in dentistry and laryngology, and that solutions may be injected hypodermically without injury. Mr. Carter says that his first experiments will certainly induce him to use it again, and for tenotomies as well as for iridectomy or extraction. It is said, he adds, that the solution above mentioned may be sterilized by boiling again and again, if necessary, without undergoing decomposition or suffering any deterioration of quality.

**The Business Aspect of Medical Practice.**—Dr. J. C. Bennett, of Yonkers, writes to us as follows, under the heading of Mistakes of the Profession:

"Six years ago, when I began the practice of medicine, there were many things that elicited my amazement, principal among which were the methods pursued by doctors generally in the conduct of their business.



I do not suppose I should speak of such conduct as methodical, for it has never reached the dignity of a method. I observed that doctors were exceedingly lax and irregular in attending to the financial side of their practice, and this was all the more a source of wonderment as I saw everywhere, in all lines of business, men conducting their affairs in a most thoroughly systematic manner. And, strange at it may seem, this condition of things has always existed in the medical profession. For years it has been the custom to send out bills but once a year, and such a thing as suing for a claim was almost unheard of, except in the rarest and most aggravated instances. Now, some have broken away from that time-honored custom, and send out their bills twice a year. Thirty days, I believe, is the time limit of credit in the business world—here it exists without a limit. Such a practice is fraught with the most disastrous consequences to a physician's finances, as it teaches the people to defer payment almost indefinitely, especially where there are other claims that are being pressed.

"As an illustration of the negligent manner in which the average physician collects his bills, the following is a fair example: The other day a man told me he had been asking and reasking his physician for more than a year to send him a statement of his account, but, notwithstanding it was nearly of two years' standing, he had been unable to get one. Such conduct would eventually kill any business. The conclusion that the people naturally come to is that a doctor either is very fond of work or values his services very lightly, otherwise he would insist upon payment, as all other men do. The above-named gentleman is engaged in business in this city and, consistently with business methods, recognized and followed by all business men, he sends out his bills every month; should payment not follow after two or three months, he does not hesitate to adopt measures to collect. Such is business, and all men expect it. Why do doctors disappoint them? I am sure, had the doctor who had neglected to send his bill as requested gone into that gentleman's store and made a purchase for which he did not pay, he would beyond the shadow of a doubt have received a bill for the same, at least by the end of the month.

"Some years ago a doctor told me he had twenty thousand dollars on his books that he never expected to get. He practises in a small town, and that twenty thousand, which had accumulated in about fifteen years, represented a vast amount of work—many weary days and sleepless nights. While he charges a dollar and a half a visit, he said he would willingly accept fifty cents, if that fifty cents was paid at each call. How many doctors would willingly do the same, for surely a dollar in the hand is worth two on the books! It is a decided relief to find now and then a doctor who has some business method about him, who conducts his business according to business principles, who sends out his bills regularly each month, who gives people to understand that they can not use him, and that they must pay for what they get. But where you will find one such, you will find ninety and nine who are easy victims for every Tom, Dick, and Harry who happen to need their services. A perfect stranger calls on a doctor, receives his advice and sometimes his medicine, and walks out without paying a cent. Has this any counterpart or parallel in any other department of human affairs? If so, I have never seen or heard of it. It is surprising, the amount of work doctors do for which they never receive the slightest remuneration. No other class gives so much

and receives so little. Night after night they allow themselves to be called out to go to some distant point without a murmur and in many cases without a dollar. They will expose themselves to all kinds of weather and face the worst and most malignant diseases without a certainty, and often without a possibility, of ever being paid. And 'the most unkindest out of all' is that these very people, as a sort of justification for not paying, will cruelly criticise the services and do all they can to injure the doctor's reputation. This is their only pay—the pay of ingratitude. It is therefore positively dangerous to work for people who do not and will not pay, and the sooner a doctor realizes that fact and acts accordingly, the better for him. But in the medical profession it seems that experience does not teach, and the evil still continues.

"It is truly amusing, to say the least, to see doctors scrambling to do service for a city or State, as though it were the most exalted privilege or highest honor to do so, while all other men value such honor or privilege only as it is accompanied with a good price. And why a doctor should under any circumstance, any more than any other man, render his services for nothing is something that passes my understanding. The city or State is fully able to pay for its work; still I do not blame them for allowing men to work for them gratuitously, if they are so very desirous and do it well. During all our epidemics of small-pox, diphtheria, cholera, etc., the physicians have been the instruments of their extermination. They have proffered their services to the city, State, or nation, as the case may be, and in the vast majority of instances have asked nothing in return. How often in this city during the past five years have I seen the doctors give their time and advice, unasked and unsought, for the betterment of the public health! It is right and proper that they should be the promoters of health, public as well as private, for they are the ones best qualified for such work, but it is only fair and reasonable that they be paid for what they do. During the recent epidemic of cholera, the physicians did for nothing what would have cost the country millions had the work been done by any other class of men; and had this work not been done, it would surely have resulted in closing the World's Fair, to say nothing of thousands of lives that would have fallen victims of its awful ravage. Can you find a lawyer who will test the constitutionality of a law for the glory there is in it? I think not. They have always been such guardians of their interests that the people expect to pay them a big fee even for the slightest service. Doctors, on the other hand, have been so lavish and prodigal of their services and work that it has naturally given rise to the impression that their services can be had merely for the asking. In this city the salary of the city judge is more than twice as large as the health officer's, and yet the duties of the former are as nothing compared with the latter's. The health officer has, among other things, to attend to the sanitary condition of the city—no small thing, I assure you—and to go when called, either day or night, to the sick poor. In fact, so much of his time is consumed in attending to the various requirements of the city that his private practice suffers an irreparable loss. As I have said, in comparison the city judge's work is very slight, and rather than the office injuring his private business, it is a decided advantage in increasing it. Again, take the case of the health officer of New York city, and you will find that almost any of the clerkships of the various commissions pay more. And where is there a physician who



in the service of a city, State, or nation receives anywhere near the amount paid a Supreme Court judge? And yet doctors are, as a rule, better educated than lawyers. Every one will naturally ask why they do this. But that is the riddle of the sphinx. Surely it is not because they are the recipients of so many public favors. Why, neither the State nor the county will grant a doctor a license which will permit him to do so much for them for nothing, unless he pays a fee for it. Everywhere and for everything they are obliged to pay. When will they rise in their might and demand of the public a just recognition of their services?

"There are a few other errors to which I would briefly refer. There is a mistake which doctors for years have made and are still making, and concerning which many of the best and most learned men of the profession have written and spoken in complaint. I refer to that ubiquitous evil—the dispensary. Everywhere is to be found the dispensary. Thousands every day repair to these places for advice and treatment because there is nothing to pay—thousands who are fully able to pay for all they receive. People of wealth even patronize these institutions. Every doctor knows this, and still the evil goes on, ever on the increase, and the doctors again are the losers. But this is an evil that must be borne till all the doctors with one accord unite against it. The young doctor feels constrained to give his time and attention to this sort of work, because others do it, and, as he imagines he would be decidedly handicapped by rebelling, reluctantly submits. With him it surely is no charity, but a means to an end. There are many men to-day masquerading before the public as philanthropists and benefactors of mankind whose claims to such a title are very doubtful indeed. A rich man builds a hospital, endows it with a certain sum of money, and then takes advantage of the mistake which physicians have made to receive their services free of charge, and the rich man gets all the glory. Is that truly philanthropic? If so, surely there is something higher and nobler than philanthropy.

"Just one other thing I desire to speak of, one which has always been a source of wonder to every one outside of the medical profession—I mean physicians' false system of ethics. I say false because it embodies many grave and vital errors—some of which have forced many men of good standing out of the ranks of professional recognition and compelled them to conduct their business in the only way whereby they could receive an introduction to the public. The profession has surely suffered by its intolerance of sound business principles. There is only one error, however, which I will specifically mention—one which imposes a restriction that is contrary to one of the most important principles of freedom, namely, the right of every man to the fruits of his own industry. This restriction forbids a doctor keeping secret, or for his own use, any medical fact, though the discovery of that fact has cost him years of patient toil and the outlay of considerable money. He has no alternative but to make known every detail of his discovery without compensation or reward. Surely there is no justice in that. A man, no matter if he is a doctor, has a right to profit by what his genius or his hard work has succeeded in finding out for him. While he has been plodding away for years over some experiment, the rest of the profession has been profiting materially by their practice. So why should not he by his discovery? If the profession wants it, let them pay for it, or if it is of great value to the public generally, let the State or nation

buy it. A system of ethics that would embody any such principle or impose any such obligation would be considered fanatical outside the medical profession.

"I have written this article, crude as it may be, at the special request of many members of the fraternity, in the hope that it may be the beginning of a movement to institute a reform which will prove an inestimable blessing to every member of the medical profession and gain for it that respect to which it is so justly entitled."

**Hot and Cold Applications in the Treatment of the Eye.**—In an article on this subject in the August number of the *University Medical Magazine* Dr. William C. Posey, of Philadelphia, remarks that it is evident that heat and cold exert a profound influence upon the temperature of the human eye, and that the intensity of their effect depends largely upon the length of time they are applied. If, therefore, the treatment of ocular diseases was simply a question of influencing the temperature, the indications for the employment of these agents would be quite simple, but in addition to the action which they have upon heat control, that which they exercise upon the circulation of the eye, independent of its influence over the regulation of the amount of heat in a part, is of no less significance from a clinical standpoint.

In inflammatory conditions, cold limits the exudation and checks the secretion by constricting the capillaries, while heat aids in the healthful repair of tissues by promoting absorption of the exudation and by carrying the proper nourishment to the part.

Again, in the early stages of inflammation, cold relieves pain both by preventing the flow of blood to the part by its contracting the blood-vessels and by its limiting the amount of exudation. In the latter stages heat relieves pain by causing absorption of the exudation and lessening the tension of the inflamed area. Moreover, heat greatly augments the diffusibility of liquids into the eye, for Kellarmoff and Dolganoff have shown that the rapidity and the amount in which drugs are absorbed after the application of the hot compress are due to a change which is wrought in the corneal epithelium.

Finally, both agents have a germicidal action. It has been found that a 1-to-10,000 hot solution of bi-chloride of mercury is more efficacious in preventing pus-formation than a cold one of 1 to 2,000. Water itself at a temperature of from 230° to 284° F. kills many bacteria, while cold, even of the degree at which it may be applied to the eye, will hinder the development of germs and prevent their growth.

Heat and cold may be applied in either a moist or a dry form. A greater action is usually derived from the moist compress, whether it is hot or cold, for Jaenec, says the author, has proved that therapeutically moist heat is not only more penetrating than dry heat, but gives a greater variation in the degree of heat. Giesse has also shown that the cold compress will lower the temperature much more rapidly than bladders filled with ice; moist applications also possess the greater advantage of washing away all secretions from the conjunctival sac.

In regard to the toilet of the eye, lukewarm applications will be found to give the greatest comfort to the greatest number. A little boric acid or sodium chloride may be added to the water and make the application even more grateful. In regard to the practice of opening the eyes in a basin of water after the head has been

immersed in it, says Dr. Posey, we are not fishes; our eyes are not adapted for such a procedure, and we should rest satisfied with the glass dropper or the eye cup.

In hyperemia of the conjunctiva, induced by ametropia or by the presence of a foreign body, cold is a simple but effective means of restoring the membrane to its healthy condition. In these cases, the douche or the compress may be applied over the closed lids with the greatest advantage for fifteen minutes at a time. The water employed should not be too cold, or excessive reaction may follow its use.

In the severer forms of conjunctivitis, when there is a purulent inflammation or an exudate, ice is the sovereign remedy, and there is but one way to apply it, by the continued use of the ice compress. Disastrous results need not be feared, says Dr. Posey, from its prolonged application, for of all the remedies used to combat this type of disease in the early stages, this is undoubtedly the best. At the outset of the disease the board-like swelling of the lids is doubtless one of the chief causes in elevating the temperature, and, as the swelling and induration prevent the cold from gaining access to the eye, it is necessary that the treatment should be energetic and prolonged. The application of compresses, therefore, should be maintained night and day in such cases, and should only be desisted from when a corneal ulcer threatens or the secretion becomes excessive. If either of these two contingencies should arise, the ice compress should be replaced at once by the hot application, and this should be persisted in for fifteen minutes every two or three hours. The hot water will relieve the stagnant condition of the corneal circulation that has been induced by the intense chemosis of the bulbar conjunctiva, and thus favor the repair of the cornea.

In treating disease of the cornea hot compresses are always indicated, never cold. The cornea is normally a non-vascular structure, and is dependent for its nourishment upon the tissues surrounding it, and if these are diseased, a stasis in the nutritive supply of the membrane occurs, and ulceration ensues. The chief indication, therefore, in treating diseases of the cornea is to prevent this stasis. This, he says, is admirably accomplished by means of moist heat, provided it is properly applied. One of the most frequent forms of corneal ulceration is phlyctenular keratitis. This disease occurs usually in children of a scrofulous diathesis, and there is no sadder sight and more striking example of the injury which is wrought by the ignorant application of remedies by the laity than is seen in this disorder. The author states that it is frequent in the ophthalmic clinics to hear the mothers of such children recite with pride a list of all kinds of harmful and disgusting substances with which they have poulticed the eye—tea leaves, rotten apples, raw oysters, bread and milk, and potatoes are the favorite articles, and the persistency and the ignorance with which they are employed are most distressing to the intelligent practitioner, and he says emphatically that poultices should never be employed in diseases of the globe itself, although they are at times of service in inflammations of the amnixa.

Instead of the use of the poultice, moist heat is best applied in diseases of the cornea by the ordinary compress, which should be kept applied for ten or fifteen minutes at a time four or five times daily.

Hot compresses will be found to be an excellent stimulant to sluggish ulcers, and will also hasten the absorption of nebulae. A few drops of scalding water,

applied directly to a mycotic ulcer, will exert a powerful antiseptic action upon it. In interstitial inflammation of the cornea also, when the whole uveal tract is inflamed, and the ciliary body especially is hyperemic, much relief will be afforded by the prolonged and unvarying use of hot fomentations, for from three to eight hours daily at periods of every two hours. Indeed, where posterior synechia have not yielded to atropine, and where there is a rise in the intraocular tension, the mydriatic will have to be withdrawn, and only hot applications and the administration of an alternative internally to lessen the inflammatory condition can be used.

In the early stages of granular conjunctivitis hot water is frequently badly borne; as soon as the vascular condition of the cornea manifests itself, however, the use of hot compresses should be inaugurated, for the inflammatory reaction which they occasion is frequently sufficient to cause the disappearance of the pannus.

One of the most distressing symptoms of phlyctenular disease, continues Dr. Posey, is the photophobia with spasm of the orbicularis which it occasions, and great difficulty is often encountered in applying the proper remedies to the eyes until these have been made to subside. In urgent cases the eyes may sometimes be opened by immersing the entire head of the child in a bucket of cold water, the sense of suffocation and shock causing it to open its lids in a reflex way as it gasps for breath. An equally effective and less heroic measure consists in permitting a few drops of ice water to trickle between the lids, which are gently coaxed apart by the surgeon's fingers.

It is a matter of experience that dry heat is more efficacious than moist heat in soothing the pain of neuralgia. It will also be found that in cases of iritis, when there is little or no secretion except the tears of reflex irritation, the dry compress is the most efficacious, while in iritis secondary to inflammations of the cornea the moist compress gives the best results.

In addition to its action upon the blood-vessels of the iris and ciliary body, the hot compress is invaluable on account of its increasing the absorption of drugs which are used for the purpose of dilating the pupil. It will frequently be found that mydriatics exert but little influence over the pupil in cases of iritis, even when the synechia are not very tenacious. Leeching and cocaine will partly overcome this, but there is nothing so efficacious as bathing the eye with water as hot as can be borne about ten minutes before the instillation of the mydriatic.

After penetrating wounds of the eye, particularly when the iris and the lens have been injured, and if there is the complication of plastic iris and traumatic cataract, in addition to the other treatment, the author states that the continuous use of the ice compress will be found to be a potent agent in combating inflammatory reaction and in preventing the invasion of noxious germs by reducing the temperature of the parts. In suppurative panophthalmitis, he says, hot applications are grateful from the very onset and may be kept up almost continuously. The pain arising from muscular asthenopia is also often allayed and the symptoms at times are made to disappear by the use of hot compresses, for the heat actually increases the contractile power of the weak muscles. But if there is any tendency to disease of the deeper structures of the eye, such as the retina or the optic disc, it is well to avoid the use of hot applications, as they may cause further mischief by increasing congestion in these delicate membranes.



## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

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#### LECTURE II.—ANGINA PECTORIS VERA.

ETIOLOGY.—GENERAL DESCRIPTION.

INCIDENCE OF THE DISEASE.—As noted long ago by Sir Gilbert Blaine, angina pectoris is a rare affection in hospital practice. Gairdner criticises this statement rather sharply, and yet I think that a majority of hospital physicians would be found to support it. During the ten years in which I lived in Montreal, I did not see a case of the disease either in private practice or at the Montreal General Hospital. At Blockley (Philadelphia Hospital), too, it was an exceedingly rare affection. I do not remember to have had a case under my personal care. There were two cases in my service at the University Hospital. During the seven years in which the Johns Hopkins Hospital has been opened, with an unusually large "material" in diseases of the heart and arteries, and with many cases of heart pain of various sorts, there have been only four instances of angina pectoris. You will find the statement in Fagge's *Practice* (third edition, vol. ii, p. 26) that "the writer has never seen classical angina in hospital practice."

On the other hand, an individual consultant may see within a year more cases than occur in all the hospitals of his town within the same period. In corroboration of this striking contrast between the incidence of angina pectoris in hospital and consulting work I may refer to the statistics of the Edinburgh Royal Infirmary, in which for the two years covered by the *Hospital Reports*, 1893 and 1894, there were five cases among a total of 8,868 medical cases. Compare with this the personal experience of the distinguished Edinburgh consultant, Dr. Balfour, who, in his recently issued work on *The Senile Heart*, gives an analysis of ninety-eight cases of angina pectoris seen within ten years. My individual experience embraces a series of sixty cases, forty of which may be regarded as true angina.

The predisposing causes of angina pectoris vera are those of arterio-sclerosis; that is to say, so intimately associated is the true paroxysm with sclerotic conditions of the coronary arteries that it is extremely rare apart from them. Men of muscular, even athletic build, who have been *dévotés* of Bacchus and of Venus, form perhaps the largest contingent. Gout, syphilis, and heredity influence the causation only so far as they tend to cause sclerotic changes in the arteries; but it would be altogether too narrow a view to suppose that the ætiology of the disease is identical with that of arterio-sclerosis.

The one is so common and the other comparatively rare, even among the individuals most prone to sclerosis, that there must be a third element, an indefinite something, which yet escapes our knowledge, but which is the essential factor in the production of this terrible affliction.

STATION IN LIFE.—As Sir John Forbes remarks, it is an attendant rather of ease and luxury than of temperance and labor; on which account, though occurring among the poor, it is more frequently met with among the rich, or in persons of easy circumstances. It is remarkable how many prominent individuals have succumbed to the disease. We may say of it as Sydenham did of the gout, that more wise men than fools are its victims.

I do not know that any special occupation or profession predisposes to it, but the frequency with which physicians are attacked has been commented upon by several writers. In my list of sixty cases of all forms, there were thirteen medical men, eight of whom had true angina. This percentage is doubtless exceptional, and due, in part at least, to my nomadic habits, and wide acquaintance in the profession.

SEX.—From the earliest description of the disease, the remarkable preponderance of males who are attacked has been noted. Heberden says: "I have seen nearly one hundred people under this disorder, of which number there have been three women" (*Commentaries*). The statistics collected by Huchard give in two hundred and thirty-seven cases of true angina only forty-two in women. In my own series of forty cases of true angina there was only one woman.

AGE.—The age at which it is most common is that of arterio-sclerosis—after the fiftieth year of life. Of the forty cases on my list there were only four under the fortieth year. One of these, a man, aged thirty years, had had syphilis five years before; the other case, a woman, aged thirty-two years, had mitral-valve disease; the third case had terrible attacks of angina following chronic pleurisy. In the fifth decade there were thirteen; in the sixth, thirteen; in the seventh, nine; and of one case I did not get the exact age. The average of the thirty-nine cases was about fifty-three years. Cases are reported in quite young individuals, even in children, but such are almost invariably the subject of chronic valvular disease or adherent pericardium.

EPIDEMIC, IMITATIVE, AND EMOTIONAL INFLUENCES.—Laennec was "of the opinion that the prevalent type of disease influences its development," and adds, "I have some years met with it frequently, and hardly at all in others." You will find reference in the literature to so-called outbreaks of angina which have been reported by Kleefeld\* and by Gelineau.† I can not see that the cases recorded by Kleefeld have anything to do with

\* Delivered to the Post-graduate class, Johns Hopkins Hospital.

\* *Journal d. pract. Heilkunde*, 1823, lvi.

† *Gazette des hôpitaux*, 1862, xxxv



angina pectoris. He describes the epidemic as a remittent fever with gastric complications, and much pain about the heart. Some of the cases were fatal, but no autopsies were made. Young persons, chiefly women and children, were attacked.

Gelineau, surgeon to the French corvette *L'Embucade*, reports a remarkable outbreak among the sailors during a prolonged cruise in the Pacific. Scurvy had broken out and the men were much debilitated and anæmic. They became subject also to a severe dry colic. Following this there were many cases of angina. The first case was that of an old sailor, scorbutic and anæmic, who while climbing the mast was seized with intense pain about the heart. Five days after, five other men were attacked in the same sudden way, and three days later, three more. Gelineau lays a good deal of stress upon tobacco as a factor in the causation of the pain, and also upon the debility following the scurvy, dysentery, and dry colic. The effect of imitation, that extraordinary occult influence so potent in many forms of hysteria, must, no doubt, be taken into account. Perhaps the most notable instance is given by Dr. Taber Johnson in his report of Mr. Sumner's case.\* "I have observed a curious fact, which it may be interesting to refer to here. I mean the unusual number of patients suffering from this disease, who, previous to Mr. Sumner's severe illness, had never supposed that they had any disease of the heart. This fact has been referred to by newspaper correspondents—viz., that during the illness of Mr. Sumner, and especially since his death, instances of its occurrence have considerably increased, and especially among those who strongly sympathized with the late senator. This seemingly sympathetic cause of disease has been noticed in other cases. I have been consulted by as many as thirty individuals, since Mr. Sumner's death, who imagined they were afflicted with his complaint. In some of these cases there was organic disease of the heart, but in a majority of them there was no cardiac trouble at all. Two weeks after the autopsy in Mr. Sumner's case, one of the physicians who assisted, a devotedly attached friend of the deceased, died of angina pectoris. I am informed that Dr. Hitchcock had but a few attacks, and that, prior to Mr. Sumner's death, he had never been a sufferer from angina pectoris."

Dr. Johnson says that he himself suffered from two attacks very closely resembling, if they were not really, angina. One of these occurred immediately after Mr. Sumner's death, and Brown-Sequard, who was present, said the phenomena were undoubtedly those of a paroxysm of angina. Twenty-two years have passed, and, happily for himself, as well as for our brethren of the District of Columbia, Dr. Taber Johnson has now less mobile nerves.

In Case X of my series of pseudo-angina the patient's husband died suddenly in a paroxysm of true angina.

Mental worry, severe grief, or a sudden shock may

precede directly the onset of the attacks. In Case XXXVI, the paroxysms came on after the shock of the announcement that a son had committed suicide.

HEREDITY.—True angina pectoris is an arterial incident, and, as we know that the members of certain families show a special tendency to arterial degeneration, it is not surprising to find cases in father and son, or in brothers, or even in representatives of three generations. There are remarkable instances on record in which many members of a family have been attacked. The first, and one of the most notable, is that reported by Dr. Robert Hamilton,\* in which the father of the patient, a young man aged twenty-four, two brothers, and one sister were affected. In all, the disease developed in early life; in Hamilton's own patient, at the twelfth year. It is quite possible from his description that the disease may not have been angina pectoris, but spasmodic asthma associated with heart pain.

The best-known instance is that of the Arnold family. William Arnold, collector of customs of Cowes, died suddenly of spasm of the heart in 1801. His son, the celebrated Thomas Arnold, of Rugby, whose case I will narrate to you shortly, died in his first attack. Matthew Arnold, his distinguished son, was a victim of the disease for several years, and died suddenly in an attack on Sunday, April 15, 1888, having been spared, as he hopes in his little poem called *A Wish*—

"The whispering, crowded room,  
The friends who come, and gape, and go;  
The ceremonious air of gloom—  
All, which makes death a hideous show!"

At the time of his death, the accounts which appeared in the *Lancet* and *British Medical Journal* were not clear as to the existence of attacks of angina. The various stages in the progress of his illness can be traced very well in his *Familiar Letters*,† in which you will find an account of numerous attacks from May, 1885, until the time of his death.

In looking over the literature one finds occasional references to cases occurring in several members of one family. Cazanave de la Roche‡ records three cases in one family—a sister, who was affected at the time of the report, and two brothers who had died of the disease. In Case XXIII on my list the patient's father died of angina pectoris.

GOUT.—The relation of certain constitutional disorders to angina pectoris has been much discussed. The importance of gout as a factor was early suggested, and in this interesting little monograph of Butter's, which I show you here—the first separate treatise on the disease—the author places the seat of the disorder in the diaphragm, and calls it diaphragmatic gout. The affection has also been termed asthma arthriticum.

Nathaniel Chapman advocated strongly the arthritis

\* *Medical Commentaries*, 1785, ix.

† *Letters of Matthew Arnold*. Macmillan & Co., 1896.

‡ *La Tribune médicale*, 1895, p. 832.

\* *Boston Medical and Surgical Journal*, 1874.

nature of angina pectoris, and there can be no question, I think, that in a certain number of the victims gout plays an important rôle in inducing the arterio-sclerosis.

I have been particularly interested in examining into this point in the cases which have come under my observation within the past four or five years. There are four cases at least of my series in which gout seemed to play a part. Dr. —, of Virginia, seen April 3, 1894, a very robust, vigorous man of forty-eight, temperate, a hard worker, who had not had syphilis, and in whom the attacks were fairly characteristic, thinks that gout (which is in his family) is directly responsible for the attacks. Certainly, after using without benefit for many months the iodides and the nitrites, he obtained the greatest relief from a prolonged course of colchicum. It is now more than two years since I saw him, and he remains well. In another case, a patient with attacks of angina pectoris *sine dolore*, there had been attacks of acute articular gout. In a third case, a man aged sixty-four, the upper half of the pinna of the lobe of the right ear was firm and calcified, and the same process was beginning in the left ear. There were no topi, but the calcification was, to say the least, suggestive. A fourth case was that of a physician from North Carolina, aged forty-six, who had for many years attacks of gouty arthritis, chiefly in the big toe, less frequently in the ankles. There was a well-marked tophus in the right ear.

**DIABETES.**—The association of angina pectoris with diabetes has been frequently noted. No instance has fallen under my personal observation. You will find the whole subject very thoroughly discussed by Ebstein in a recent paper in the *Berliner klinische Wochenschrift* of last year (1895).

**SYPHILIS** is one of the potent factors in inducing arterio-sclerosis, and thus indirectly plays a rôle in angina pectoris. Of the cases in my series, only four gave a history of syphilis. The instances of aortitis to which I have already referred, occurring in the third and fourth decades in men who have had syphilis, have worked hard, and have been heavy drinkers, are sometimes associated with severe attacks of angina. In Case I, Lieutenant X., aged thirty years, a robust, powerful man, had had syphilis six years before his visit to me. The secondary symptoms were slight, and he had not had very thorough treatment. A year before I saw him he began to have severe pains in the heart, recurring in paroxysms, and associated with pain down the left arm, and dyspnoea on exertion. There was no perceptible enlargement of the heart; there was a systolic murmur at the apex and a soft bruit at the aortic area, without special accentuation of the aortic second sound. The attacks had been of such severity that he had been off duty for many months. He improved very much upon the iodide of potassium, but still had attacks six months after I saw him, since which time I have not heard of him. Corri-

gan's case, you remember, the illustrative plate of which I showed you at the last lecture, was in a young man, and belonged to this group. The frontispiece in Balfour's work on the heart (second edition) illustrates another case of the same kind in a still younger man, aged twenty-four years. The angina attacks were associated with an aortitis which narrowed greatly the orifices of the coronary arteries.

**SPECIFIC FEVERS.**—In connection with the specific fevers several writers have described anginalike attacks. Fraentzel, in his *Vorlesungen über die Krankheiten des Herzens* (Berlin, 1889), describes attacks of angina pectoris in the weakened and dilated heart following the infections, particularly erysipelas, typhoid fever, and pneumonia. J. W. Moore\* has reported two instances of anginal symptoms in connection with heart weakness during and after the specific fevers. In the epidemic of a remittent fever reported by Kleefeld (and already referred to) the attacks of heart pain may have been of this character. I do not remember to have seen a case in which the attack developed during convalescence from one of the ordinary fevers.

Among the many nervous sequelæ of *influenza*, few are more distressing than the attacks of severe cardiac pain. In some cases, indeed, the disease seems to have been the starting point of attacks of true angina. The frequency of the complication in the practices of some physicians is remarkable. In a paper on *The Action of Influenza Poison on the Heart*, Curtin and Watson state that within two years they met with fully seventy cases of painful attacks about the heart. The illustrative cases in their paper † show that some of the attacks must have been of very great severity, but, in most instances, the duration of the disease was short and the cases evidently belonged to the category of pseudo-angina. I have seen but two instances in which the attack seemed to follow directly upon the influenza. One is certainly pseudo-angina; the other proved to be the genuine disease.

I saw on several occasions in Toronto a medical friend who, after a tolerably severe attack of influenza about three years ago, began to have attacks of agonizing pain about the heart. They came on without warning, the pain appearing in various parts of the chest, commonly under both shoulder blades, and especially severe in both wrists. There was at first no irregularity of the pulse or difficulty in breathing; but in some attacks there were piping râles during expiration. At first these attacks were almost nightly; several times they ended in vomiting (preceded by profuse salivation) the passage of more or less flatus, and copious sweating. There was no mental anxiety whatever, except, as he expressed it, "the pain was so intense that I was afraid I would recover, in order to endure it again." The pain in the arms was chiefly in the front of the wrists. The patient had not had any serious illness previously, had never had syphilis, had not been a heavy drinker, but had been a

\* *Dublin Medical Journal*, 1890, vol. lxxxix.

† *International Medical Magazine*, January, 1895.

pretty heavy smoker. The attacks recurred with intensity throughout the early part of January. When I saw him there were no signs of cardiac disease. He had had a good deal of digestive disturbance. During the following summer and autumn he progressively improved, and I heard from him recently to the effect that now only in any extra strain, as in the attendance upon a difficult case of labor, does he feel any pain. He used the iodide steadily for some time without any special benefit. He attributes more benefit to lavage of the stomach with hot water night and morning. How far the influenza in this case was responsible for the attack is, of course, difficult to say, but when I saw him first he was very insistent that it was the cause of his whole trouble. From the rapid way in which the attacks have ameliorated and his present general condition there is, to say the least, a strong probability that it is functional and not associated with organic disease.

The other case was that of the late chief justice of this State, who had, in the early winter of 1893, a very severe attack of influenza with much fever and prostration. In the latter part of December he began to have pain about the heart in walking briskly up a hill. Then he had more severe attacks, but in the summer of 1894 he was better, and was able to take long walks. The attacks recurred about Christmas, 1894. I saw him on January 20, 1895. There was no enlargement of the heart, the sounds were clear, the second aortic a little accentuated. The only striking anomaly was a condition of trigeminal heart-beats—groups of three beats, with an interval, followed in regular sequence. He improved very much through the summer of 1895. In October he had a severe shock on the sudden death from angina of his brother-in-law (Case XXXV on my list). He did not, however, have any recurrence until December. I saw him on January 5, 1896. The paroxysms had become more frequent and very severe. In the following week he died in an unusually prolonged attack. The onset of the angina corresponded with the period of convalescence from the influenza, which he always insisted had caused the attacks.

**HEART DISEASE.**—Paroxysms of agonizing substernal pain, with radiation to the neck and arm, are rare in the ordinary forms of heart disease which we meet with in hospital work. Heart pain is common enough, and if we counted all such cases as angina we would not have to lay stress on the infrequency of this syndrome in the wards. You remember the small boy in Ward F during the early part of this session, with greatly enlarged heart, probably from pericardial adhesions. Pain was the most distressing symptom of the case, but it had neither the intensity, the paroxysmal character, nor the accompaniments which warrant the diagnosis of true angina. So, too, in the case of the old colored woman, at present in Ward O, with mitral-valve disease and extreme arteriosclerosis. I have pointed out to you that the attacks of sudden breathlessness and distress, with transient pain, are of the nature of cardiac asthma, with which, as I will tell you later, angina pectoris is often confounded. Then again, you have to bear in mind the common complaint of pain beneath the left breast in patients with chlorosis and various forms of anaemia.

Of valvular affections, aortic insufficiency is that with which angina pectoris is most frequently associated. Of the forty cases in my list three presented signs of this lesion. The subjects of the degenerative type of the disease, which develops in men after the fortieth year, are much more prone to angina than those in whom the insufficiency has followed endocarditis. The younger the subject, the greater the probability that the incompetency results from an acute aortitis, as in Corrigan's case, to which I have referred on several occasions.

Angina pectoris is excessively rare in mitral-valve disease. This is well illustrated by Nothnagel's experience.\* Of fifteen hundred cases of valvular disease of the heart seen in hospital and private practice, very many of which had symptoms of angina, there was but a single case in which the syndrome occurred in connection with mitral stenosis. Only one of my cases, a woman, had a mitral lesion. By far the most common heart disease with which angina is associated is chronic myocarditis, the signs of which are often dubious.

Cases of adherent pericardium and of aneurysm of the aortic arch may present the features of typical angina, more often, in my experience, of constant substernal pain or of cervico-brachial neuralgia.

A majority of the subjects of angina present the signs of arterio-sclerosis, with accentuation of the aortic second sound and slight increase in the area of transverse heart dullness. Some of the most rapidly fatal cases are those in which the physical signs are very slight, or even absent. Of the cases on my list, in four only was the physical examination negative; three presented apical or basic murmurs; of the remainder, all of whom showed signs of sclerosis of the arteries, nine had indications of myocardial changes.

**LOCOMOTOR ATAXIA.**—Considering the close relationship of syphilis to this disease, in which also arterio-sclerosis is so common, it is not surprising that attacks of angina pectoris should occur. No instance has fallen under my personal observation. You know that aortic insufficiency is not rare in tabes. At Blockley the association was a matter of everyday comment, and in the physical-diagnosis class we would send to the out wards for the old tabetics to demonstrate the lesions of arterio-sclerosis, and if not of aortic incompetency, of the ringing metallic aortic second sound, which so often accompanies the dilated and rigid aortic arch. You will find the subject fully discussed by Leyden in the *Zeitschrift f. klin. Medicin* for 1887, and since his paper there have been several less important communications.

**GENERAL PICTURE OF THE DISEASE.**—In any long series of cases of angina we can recognize four groups:

I. *Sudden Death, without other Manifestations of Angina Pectoris.*—Much more true of angina pectoris is what Andral said of the fulminant form of cholera: it begins where other diseases end—in death. The affec-

\* *Verhandlungen des Congresses f. innere Medicin*, Bd. x.



tion has indeed been called by Sir Walter Foster a mode of death, which reminds one of the expression of the physicians who spoke of Seneca's malady as a *meditatio mortis*. No inconsiderable proportion of sudden deaths in men of middle age and robust habits result from coronary-artery disease, from the rapid culmination, so to speak, of a condition which, in another (or on previous occasions in the individual himself), would have caused an ordinary attack of angina. Before all is over there may be a momentary conscious agony expressed by a cry, but in other instances (and this is most frequently the case in the subjects of angina) the death is literally instantaneous; more rapid, perhaps, than that which occurs by any other mode.

Of the fifteen deaths in my series, eight took place suddenly; in five, gradually by cardiac asystole; in one, I did not learn the exact mode of death; in another, the patient died of obstruction of the bowels. Of the eight cases, in five death was sudden, almost without warning, and not in a paroxysm of angina.

Mr. S. (Case XXVI) died on his doorstep; Mr. W. (Case XXVII) died as he was leaving a friend's house; Dr. X. (Case VIII) died as he was walking from one room to another. He had had cardiac arrhythmia, Cheyne-Stokes breathing, and marked mental disturbance; Mr. E. (Case XXXV) died instantly on the edge of the bed as he was recovering from his first attack of angina, not having had pains for nearly twenty-four hours; Mr. R. (Case XI) fell over dead on attempting to get out of bed. The literature abounds in cases of this sort, and the proportion of the victims of angina who die abruptly is much larger than my figures indicate. Forbes mentions that of sixty-four cases sudden death occurred in forty-nine. Anatomically it has been shown that lesion of the coronary arteries is almost invariably present—either extensive arteriosclerosis, embolism, thrombosis, or in rare instances the bursting of a small atheromatous abscess in one vessel, such as killed the celebrated sculptor Thorwaldsen.\* An explanation of the awful suddenness—"Life struck sharp on Death"—is probably to be found in the arrest of the heart in fibrillary contraction, such as takes place experimentally in animals after ligation of a coronary vessel.

II. *Death in the First Well-marked Paroxysm.*—A man in full health, in the prime of life, may be seized with a paroxysm of angina, and die within a few hours. The cases in this category are not numerous. Perhaps the most remarkable one on record, which has become quite historic, is that of the celebrated Dr. Arnold, of Rugby, who, in the words of his distinguished son (also a victim of the disease), arose

" . . . to tread  
In the summer morning, the road  
Of death, at a call unforeseen,  
Sudden."

The following is Latham's account:\*

"T. A. was within a day of completing his forty-seventh year. Up to a few hours before his death, both body and mind seemed equally to give proof and promise of health. He still took his accustomed pleasure and refreshment in strenuous exercise. His thoughts were still busily employed upon the highest subjects, conceiving and composing with wonderful ease, rapidity, and power. He retired to rest at midnight on the 11th of June, 1842, feeling and believing himself to be in perfect health. At a quarter before seven the next morning his medical attendant was called. What had previously occurred and what followed I will give in the words of Dr. Bucknill, who was with him during the short remaining period of his existence. 'On my entering his room he said that he was sorry to disturb me so soon; and that he had not sent for me before, thinking that it would go off. He added, "I have had very severe pain in the chest since five o'clock, at intervals, and it gets worse, I think." This pain was seated at the upper part of the chest, toward the left side, and extended down the left arm. He had been rather sick. He then asked me what the pain was. "What is it?" He was now almost free from pain. His pulse I could scarcely feel. The tongue was clean. There was cold perspiration over his face. The feet and legs were cool. The breathing at this time not troubled. I gave him immediately some hot, strong brandy and water, and having ordered a mustard plaster for his chest, till this was ready I applied hot flannels, and had his legs and arms rubbed and the feet wrapped up in flannels wrung out of hot water and mustard. The pulse became natural, the extremities more warm, and he was free from pain. The mustard plaster was brought and put on. It was not large enough and I ordered another. The pain then returning, I gave him more brandy and water, and it soon left him. And now he asked me again what the pain was. I told him I believed it was spasm of the heart. He exclaimed, "Ah!" I asked him whether he had ever fainted in his life. "No, never." If he had at any time difficulty of breathing, "No, never." If any pain in his chest before, "No, never." I then asked him if any of his family had ever had any disease of the chest. "Yes, my father had; he died of it." He inquired if disease of the heart was suddenly fatal. I answered that it was. "Was it a common disease?" I said not very common. "Where do you find it most?" "In large towns, I think." "Why?" "Perhaps from anxiety and eager competition among the higher, and intemperance among the lower classes." He was then quiet and free from pain, and I proposed to leave him for a minute or two. He had no pain whatever in my absence. On my return the perspiration was still in drops upon his forehead. The pulse was again feeble, and I gave him more brandy and water and had the flannels with mustard renewed. An attack of pain was coming on. He said, "I must stretch myself." I took one of his hands and held it until the pain was gone off. It was of short duration. I said, "Is it gone?" He answered, "Yes, entirely," adding that he "could scarcely bear it if it were as severe as it had been." He then asked me "what was the general cause of this kind of disease." He then said, "Is this likely to return?" I answered that I was afraid it was, but that, as the attacks had been less severe and less frequent, I hoped they would pass off. He next asked me

\* Latham's *Works*, vol. i, p. 453; New Sydenham Society, 1876.  
See also Stanley's *Life of Thomas Arnold*.

\* Virchow's *Archiv*, Bd. xxv.

if the disease was generally suddenly fatal. I said generally (for those who knew him were aware that it was impossible not to tell him the exact truth). I then asked him if he had any pain. He said, "None but from the blister; one can bear outward pain, but it is not so easy to bear inward pain." I was now dropping some laudanum into a wineglass, when he inquired what I was going to give him. I told him laudanum, Hoffman's anodyne, and camphor; and, while I was preparing the mixture, and before I had finished, I heard a rattling in the throat and a convulsive struggle. I called out, and on turning to him I supported his head, which was thrown back on my shoulder. His eyes were fixed and his teeth set, and he was insensible. His breathing was very laborious, his chest heaved, and there was a severe struggle over the upper part of the body. His pulse was imperceptible, and after deep breathings at a few prolonged intervals all was over. He died in little more than half an hour after I first saw him."

The examination showed a soft, flaccid heart muscle. There was but one coronary artery, and that, considering the size of the heart, of small dimensions. It presented also a slight atheromatous deposit an inch from its orifice.

In no case in my series did death occur in the first paroxysm. The most rapid case was Mr. E. (Case XXXV), who had an agonizing paroxysm at 2.30 P. M. on October 14th, and several lesser recurrences through out the night. There was no attack on the 15th, and he passed a comfortable night. On the 16th, at 9.10 A. M., he sat up on the edge of the bed to be helped on the commode, and fell over dead, about forty-two hours from the onset of the first attack.

III. *Recurring Attacks extending over a Period of Months or Years.*—Much more commonly a victim of angina pectoris has many paroxysms over a period of many months, or from three or four to twenty or even twenty-five years. The recurrences may be at long intervals, as in John Hunter's case, or they may render the patient's life unbearable, since he feels that the slightest transgression, muscular or emotional, may precipitate a paroxysm. Many a poor sufferer has felt what Senator Sumner expressed: "This treacherous disease produces in my mind a positive uncertainty, when I go out of my house, whether I shall ever enter it again a living man, and, with the pain I have to suffer, makes my life such a burden that the sooner it does its work the better I shall be pleased. Life, at the price I have to pay, is not worth the having." Let me read you the history of a typical case of this sort:

CASE XXVI.—Mr. X., an editor by occupation, aged fifty-five, consulted me January 16, 1894, complaining of attacks of agonizing pain in the region of the heart. The patient was of a nervous temperament, but had been a very healthy man. He had never done hard physical work and had been moderate in the use of alcohol and tobacco. He did not think that he had ever had syphilis. Three years ago, following upon the shock of the announcement of the suicide of a son, he had his first attack of severe pain about the heart. Ever since, the attacks have recurred at irregular intervals, at first of a few weeks or a month, but within the past year they have been very frequent, so that he now rarely passes a day without paroxysms. They vary a great deal

in intensity. If he walks fast or makes any unusual exertion he is stopped by an intense pain in the heart, and he has to pant for breath. After lasting for half a minute or so the pain passes off, and he is able to resume his walk. Any unusual emotion or excitement will bring on an attack at once. He not uncommonly now has as many as a dozen or more attacks in the day. In the severer paroxysms he feels as if the throat was greatly swollen, and says that both his throat and his temples throb, and that he gets very red in the face. As the attacks pass off he usually sweats quite profusely. From what I can gather, he did not appear to have had paroxysms of terrible agony, in which the sense of impending death was present. He says, however, that the feeling is as though the heart was grasped in a vise, and the pains shoot up the neck and down the left arm. Two weeks ago, in Philadelphia, while walking to the station, he felt an excessively severe pain in the chest, became short of breath, and fell unconscious. When he recovered he found himself in a neighboring chemist's shop. He was able, however, to proceed on his journey. While in my waiting room this patient had two attacks, and while I was examining him he had a third, the phenomena of which I will describe to you later. Three days after his visit to me, while walking up the steps of his house, he dropped dead.

The great majority of all cases of angina pectoris come in this group.

IV. *Rapidly Repeated Attacks over a Period of Days or Weeks, with the Development of a State of Cardiac Astylosis—État de mal angineux.*—An individual in apparently good health, who may not have had any indications of heart trouble, or who may have had at some previous date an attack of angina, is seized with a severe paroxysm. This passes away, but there is shortly a recurrence, and for several days in rapid succession there are subintrant attacks, with increasing weakness of the heart. Huchard describes the condition as *l'état de mal angineux*. In a way, it is a counterpart of the status epilepticus. The condition is one of terrible distress. I have seen but two cases, and as this feature of the disease has not been specially dwelt upon by writers, except Huchard, I will read you an abstract of them both.

CASE XXXII.—On January 3, 1894, I saw with Dr. Pole, Mr. L., aged fifty-five years, merchant, who for a week had had attacks of severe pain in the region of the heart.

The patient was a stout, large-framed man, who had lived for many years a life of great activity. He had always enjoyed very excellent health; never had had rheumatism. He has seven healthy children. He had been a moderate smoker and moderate drinker, chiefly of beer. He had not had syphilis. Seven years ago, after a slight exertion, he had a very severe attack of pain about the heart, which lasted, however, only a day and then passed off. He had no recurrence and had been very well, though, occasionally, he has been a little short of breath on walking rapidly. A week ago, December 27th, a fire occurred in his place of business, and he was naturally very much excited, and helped to save the papers and books. That night he had a severe attack of angina pectoris, accompanied with vomiting and sweating. He was better the next day and able to go out. Since then he has had three attacks, all of them of a good deal of



severity. He feels very weak and feeble and the pains are severe enough to require morphine. Last night they were very much worse.

He was a well-nourished, healthy-looking man. The pulse was about 90, and there was no increase in tension; the radials were not sclerotic, and though the temporals stood out prominently, they were not firm. During the examination, the patient had an attack of very severe pain, and clapping his hands over the heart rolled about upon the bed. He was flushed in the face, and then broke out into a profuse perspiration. During the attack the pulse did not change materially in character, but remained regular. The pain was described as very intense, a feeling as if the heart was grasped in something. It extended also down the left arm and in very severe paroxysms also down the right arm. The apex-beat was difficult to feel on account of the fat mamma. The cardiac dullness was not increased. The sounds were clear at apex and base; the aortic second was not accentuated. The lungs were clear on percussion and the breath sounds were normal.

The abdomen was distended and the stomach tympany was high. As nitroglycerin and nitrite of amyl had no influence whatever on his attacks, morphine was used.

On the 4th he was better. On the 5th and 6th he had very severe attacks, requiring much morphine. On the 7th and 8th he was still worse, and displayed a remarkable resistance to the morphine. Thus, in the hours between ten o'clock Saturday night and 1 p. m. on Sunday, he had received by mouth and by hypodermic injection five grains of morphine, in spite of which he scarcely slept at all, and, at the time of the visit, the pupils, though small, were not extremely contracted. So resistant had he appeared to be to the morphine that we discarded the tablets which had been employed and obtained a fresh solution. The attacks of pain were of great intensity and recurred frequently. They were of the sharp, agonizing form, and in the intervals there was a dull, heavy weight. Only the fullest doses of morphine on Sunday and Monday kept him free from pain. On Tuesday he was somewhat better, and on Wednesday he was almost free.

During these protracted attacks he was frequently almost beside himself with the pain, and sweated very profusely, and on Sunday and Monday and Tuesday he had severe attacks of vomiting. There was no fever. On Wednesday, the 10th, he was better. I saw him early on the morning of the 11th. He had had a bad night with the shortness of breath. I found him with a pulse of 115, small in volume; the heart sounds feeble and distant. The change, so far as his heart was concerned, was quite striking, as the heart sounds had previously been quite clear. To-day they were extremely feeble and the action somewhat irregular. Over the left lung there were numerous bronchial râles, particularly on the outer side. In the evening his condition seemed really critical. The respirations were 40, labored; expiration prolonged, and there were medium-sized râles heard over the whole chest. He was given whisky freely, Hoffmann's anodyne, and ammonia, and in spite of the threatening condition in his lungs he was given during the night two or three hypodermics of morphine.

On the 12th and 13th the cardiac condition was better. He had had no attacks of pain since Wednesday. The bronchial symptoms and cough continued.

On the 14th he was not nearly so well. The respirations were hurried, the cough troublesome, and over the whole chest piping rhonchi were heard. The pulse was at about 120 and feeble. He took his nourishment bet-

ter, and the feeling of weight about the heart had gradually diminished. All along, the color of his face had kept pretty good, though that of the finger tips was sometimes a little cyanotic.

On the 15th and 16th he was decidedly better, though the wheezing rhonchi were still present everywhere. His expectoration throughout these attacks had been mucopurulent, and then purulent, but the cough was never paroxysmal. On several occasions the urine presented slight traces of albumin.

January 21st. For the past few days the condition had been better, little or no pain, less wheezing, and he has been sleeping better and taking more food. Last evening, however, he had hallucinations, and did not know where he was, thinking he was in some hospital, and that his wife was his mother-in-law. He seemed, however, so well that they thought partly that he was joking. His wife stated, too, that on several occasions during his illness he had made odd remarks, as if he did not realize fully his surroundings. He spoke of it himself this morning and joked about it, seeming quite clear and bright mentally. The pulse was soft, 90, regular, and without increase in tension; the heart sounds were a little feeble, but clear. The bronchial râles were still to be heard everywhere over the chest. I left him, saying that as he was so much better I probably would not see him again.

22d. Dr. Pole sent word that the patient died suddenly at 2.45 this afternoon. He wrote: "I saw him about one o'clock, after he had had a severe heart pang, which he described as of a very sharp, cutting character, and he felt as though his heart had stopped. The color changed as usual. He had been cold all day at the extremities, though not more so than he had frequently been before. He rested fairly well last night and took no morphine, but throughout the day he has had cutting pains in his left hypochondriac region."

CASE XXXVIII.—On the 24th of February, 1896, I saw, at 10.30 a. m., with Dr. Mary Sherwood, Mr. L., aged fifty-nine years, who had been attacked at seven o'clock in the morning with agonizing substernal pain.

He was a healthy man of good stock; his mother, still living, was aged nearly ninety; his father died about the age of sixty, of, so it is said, fatty heart. The patient had been an abstemious man, of good habits, not a heavy smoker. During the past thirty years he had scarcely had a day's illness. For a year or more he had been using the bicycle, and had noticed that he was a good deal distressed and short of breath on going up hill. For several weeks he has had occasional attacks of pain of a singular character about the wrists, chiefly the left, which, he said, felt as if encircled by a band. He has occasionally felt pain about the elbow and the left shoulder. They did not seem to be rheumatic. Yesterday he had a very comfortable day, took a light evening meal, and went to bed feeling in his usual health. He was aroused this morning at seven o'clock with a very severe pain beneath the breastbone. It extended to the region of the apex, and was felt very severely down the left arm and about both wrists. He became pale, but Dr. Sherwood, who saw him about half-past seven, said that the pulse was not much affected. He obtained temporary relief by inhalations of the nitrite of amyl, but between eight and nine it became so severe that he had to be given whiffs of chloroform.

I saw him at 10.30. He was a healthy-looking man, with grayish hair and mustaches; there was no arcus senilis. He was not sweating, and he did not look very



greatly distressed. The pulse was 90, of fair volume, without increase of tension, and the coats of the vessel were not specially thickened. The apex-beat was not easily to be felt. The heart sounds were dull and muffled at apex; there was no murmur at the base. The aortic second sound was not accentuated. There was no dullness over the manubrium. He had no respiratory distress, and there were no piping râles. The abdomen was not distended.

The intensity of the pain had passed, but he was still suffering a great deal from a very severe constant pain beneath the breastbone. He had not had any sweating or special coldness of the hands or feet. He was ordered a quarter of a grain of morphine, and to have it repeated at intervals if necessary. He improved somewhat through the day, though the pain did not entirely disappear. He had a pretty comfortable night.

On Tuesday, the 25th, he seemed better. He had five or six free movements from the bowels, and, as he insisted upon walking to the water-closet, they exhausted him a good deal.

On Wednesday, the 26th, without any active paroxysm, he had a great deal of substernal pain, and his pulse became feebler. He dreaded very much a return of the severe pain, and had small doses of morphine at intervals. I did not see him again until Thursday at 2 P. M. He had not had a good night, and had become much worse through the morning, signs of great cardiac weakness having appeared. He had had no sweating. When I saw him he was greatly changed. The pallor was marked, and the general depression extreme. There was no sweating; the face was pale, rather than ashy gray. The tongue was thickly furred. His mind was quite clear, and he complained only of feelings of great exhaustion and an uneasy pain beneath the sternum. The head was low; the respirations were not hurried. The pulse was scarcely to be counted, only a few feeble beats reaching the wrist. There was no heaving over the præcordia; the sounds at the apex were only just audible in gallop rhythm. At the base the gallop rhythm could just be perceived. There seemed to be a slight increase in the area of cardiac dullness. He had been having hypodermics of strychnine, one sixtieth, but one thirtieth was ordered every two hours, and a hundredth of a grain of digitalin. He had passed very small quantities of urine. At ten o'clock that evening he was decidedly better; the pulse was stronger and the beats were regular. There was still slight gallop rhythm at the apex. The sounds were very much more distinct. He complained a good deal of an unpleasant gasping in his breathing at intervals, which distressed him very much.

February 28th. Patient had had a rather restless night, sleeping only at intervals, and being much distressed by gasping for breath. He had taken small quantities of nourishment, and had had no vomiting. The pulse was regular, small, and about the same as last evening. He had had digitalin and strychnine regularly through the night. He had a very comfortable day, and seemed altogether better, though he had had some slight delirium and wandering, particularly after waking. He had slept with his head high, and had not been quite so much troubled with the cardiac asthma. He had had no attacks of pain.

29th. This morning he was not so well. He had had a quarter of a grain of morphine at ten last night, which quieted him, but he was aroused at intervals with a distressing sense of the need of air. The delirium was marked and he looked distressed; there was no coldness

of the hands and feet, and no sweating. The pulse was feeble, irregular, and intermittent; sometimes three and four beats were dropped in succession. The apex-beat was not palpable. The heart sounds were only just audible at the apex. There was a gallop rhythm. At the base the second sound could only just be heard. There was no murmur. Throughout the day he was quiet, except for attacks of gasping for breath, which were very distressing. At 5.30 the pulse could not be felt at the wrist. He was conscious; the respirations were not hurried, though every five or ten minutes he would become a little restless and gasp. The heart sounds could be heard both at apex and base; a very distinct embryocardia, but no murmur. The feet and hands were cold, but he had had no sweating. It was rather remarkable to see a man in such a desperate condition entirely conscious and perfectly alive to his surroundings. He was at times very nervous and restless. Throughout the evening he grew worse; the heart sounds became feebler, and after a period of terrible distress for an hour or more, death occurred, about six days after the onset of the first paroxysm.

## Original Communications.

### TREATMENT OF CHRONIC DISEASE OF THE ANKLE AND TARSUS.\*

By W. R. TOWNSEND, A. M., M. D.

IN the treatment of chronic disease of the ankle and tarsus the majority of authorities believe that, in mild



cases, the best results are obtained by giving the joint complete rest and protection; that in the more severe

\* Read before the Society of Alumni of Bellevue Hospital, May 6, 1896.

cases operative interference is necessary, and that complete removal of diseased bones gives better results than partial scraping or gouging. There are, however, some who believe that all cases are best treated by means of active surgical interference, and that as soon as abscesses appear it is best to cut down and either do a complete excision of the tibio-tarsal articulation (which means, in most cases, a complete removal of the astragalus), or of any of the tarsal bones which may be affected. For those who are interested in a complete statement of both sides I would refer them to the article on the subject of the operative treatment of this disease, by C. L. Scudder, M. D., to be found in the second volume of the *Transactions of the American Orthopaedic Association*. In this he quotes the results of his own cases and those of other observers, and in the discussion a full statement is given of the non-operative side of the case. My experience leads me to believe that most cases can be treated by conservative measures, that proper rest to the articulation will give a complete cure, and that such a foot, when cured, is always better than one that has been subjected to operative interference. I recognize, however, that cases have been reported where complete restoration of bone has occurred after subperiosteal operations. I also fully believe that if treatment is begun early, the tendency to abscesses and the extension of the disease from its original focus is much diminished. The proper mechanical treatment is a matter of the utmost importance, and it is this fact that I wish to emphasize, and to call attention to a method which in my hands has given great satisfaction. That a great many do not thoroughly appreciate what complete rest and protection for the ankle joint means is evidenced by the fact that during the past year I have seen five cases of ankle-joint disease in which imperfect measures had been adopted, and of necessity the cases were not doing well. In all of these, plaster-of-Paris casts had been applied about the foot; in three, the casts were put on with the foot in a proper position—namely, at a right angle with the leg; in the other two, the foot was in marked equinus, and so held by the plaster of Paris. It is important, if we are to get any results by non-operative measures, that complete and perfect rest be given to the articulation; this can only be done by putting the patients on crutches or on a brace, so that they can walk without touching the foot to the ground, a high shoe being placed under the sound foot. Crutches answer very well for children old enough to appreciate what is needed of them and for adults, but are entirely useless for very young children, and a suitable brace can be used for both young and old. I might state here that the class of cases that I believe best adapted to brace treatment are those occurring during the first two decades of life; after that age the subject must be looked at somewhat differently, and, although conservatism should be used, yet operative interference is more needed than in earlier life. In a case in which plaster of Paris is

applied and the foot allowed to strike the ground at each step, it does not take long for bad symptoms to result, and to have the necessity arise for operative interference, and, at the same time, conservative measures are held responsible for the bad results; this is manifestly wrong, and yet none of the different practitioners who were treating the five cases referred to was aware that he was not treating them rightly; each, no doubt, believed that the joint was protected, because the patient could not move the foot, or at least could move it but very little. This same result often occurs when young patients are given crutches. Despite the fact that the shoe on the well foot is raised, they will frequently walk on the plaster cast. This could be obviated if the shoe were raised three or four inches, or to such a height that locomotion would be simply impossible, owing to the great difference in length between the two legs; but we frequently see shoes only raised an inch, and, of course, with such a slight difference patients can easily walk. If the cork sole or metal patten under the shoe is properly made, it is better to have the sole raised for children two inches, and for adults from three to four inches, because then, even without a plaster cast, the patient can not touch the toes to the ground. Before speaking of the splint that I recommend for such cases, I should like to call attention to one other point in the treatment which has been brought to my attention, also within the past year by two other patients who had suffered from ankle-joint disease and had had excisions done for their relief. I was then asked to apply suitable braces so that they could walk. In both instances no ankylosis had occurred and the joints were absolutely flail, and the only thing possible to do was to recommend an amputation so that an artificial foot could be applied. In one of these patients such a procedure was carried out, and she now walks well; the other case was lost track of. The point of interest is that, at the best, excision of the ankle in many cases of extensive disease is a difficult and unsatisfactory procedure, and unless the result is a good ankylosis an amputation had better be first done. Of course, ankylosis may have been aimed at and a failure result, but where so much bone is removed that the lower end of the leg is nowhere in close contact with the bones of the foot, nothing but a flail joint can result, and for that it is difficult to arrange suitable prothetic apparatus. A proper and suitable excision may give a very good result.

The method of treatment that I can confidently recommend for these cases is to immobilize the foot by means of a light plaster-of-Paris or silicate-of-sodium bandage, or any of the other materials used for such purpose, such as leather, felt, wood, or paper. The foot should be held in a proper position, which is a slight amount of varus, and as near a right angle to the leg as possible; the equinus is bad, for the reason that the heel cord becomes shortened, the muscles in front of the foot and leg are stretched, and, although the patient

may entirely recover from the disease, yet a deformity of the foot results. The plaster is put on snugly and but little if any padding is needed. As soon as it is nearly hard it is cut down, and, when dry, leather strips are fastened to the edges, in which are either shoe fasteners or holes, so that a lacing can be used. The foot is thus kept absolutely quiet, and if swelling occurs the plaster does not exert undue pressure. The brace used is the ordinary Thomas knee brace, and is a very simple and inexpensive apparatus. Where plaster of Paris is used, no foot rest is necessary, and, in fact, the foot rest, while theoretically a good attachment, practically is not of much use, the reason being that it is difficult to prevent a certain amount of jarring of the foot, no matter how perfectly it is made. The "Thomas splint" consists of a ring of metal and two side bars extending to the ground, which may terminate in two rubber crutch tips, or the two ends may be fastened to a foot piece of metal, under which we have leather or rubber. The inner bar is made from two to four inches shorter than the outer bar, according to the age of the child, and this difference may be somewhat varied to suit individual cases. A leather trough is placed behind the limb and the limb held to it by means of either a bandage or leather strap. The ring itself is best made over a cone of metal which represents the actual contour of the thigh. Its measurement is taken at a point as high up on the inner side of the thigh as possible, and from that the tape should encircle the thigh, touching about the trochanter on the outer side. The ring should fit snugly but not tightly. The best material for padding the ring is an old blanket, and for a covering over this either leather or rubber tubing may be used. I have applied the splint to children of eighteen months of age and in adults of forty, so that it can be seen that the brace is suitable to all ages. The skin should be kept dry, hardened possibly by the use of a little alcohol and water, and a proper dusting powder used if necessary. Cleanliness and care will prevent rubbing and excoriations, and this fact must be insisted upon. To the ring it is advisable to attach in front and behind buckles, so that the brace may be held up by suspenders passing over the shoulders and thus prevented from dropping when the patient takes a step forward. In addition to the brace treatment, proper attention should be paid to the general constitution, and iodoform injections into the joint or Biers's method of passive congestion may be advantageously employed in many instances. Other little details in the management of the cases will readily suggest themselves, and I believe if they are diagnosed early, and this method of treatment pursued, especially in young children, that excisions and other operative measures would be less often indicated.

28 WEST FIFTY-NINTH STREET.

**The Death of Dr. Nicaise, of the Paris Faculty of Medicine,** is announced in the *Journal des praticiens* as having taken place on the 3d of August.

## HYSTERECTOMY,

WITH SPECIAL REFERENCE TO  
THE TECHNIQUE OF THE VAGINAL ROUTE.  
A REPORT OF EIGHT CASES.\*

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So much attention is concentrated at the present time upon everything pertaining to hysterectomy, especially upon the selection of the route by which the uterus shall be attacked—whether vaginally or abdominally—as well as upon the indications for its performance, its technics, and its results, by those interested in the department of surgery known as gynecology, that the following observations and reports of cases may prove of interest, and serve as an introduction to the further discussion of this important subject.

The chief indications for the performance of hysterectomy may be stated as follows:

1. Uterine neoplasms.
2. Tubular or ovarian disease, when the organs on both sides are affected.
3. Ectopic pregnancy, when the tube opposite to the one in which gestation occurs is diseased.
4. Some cases of puerperal sepsis.
5. Some cases of pelvic suppuration.
6. Metrorrhagia due to endometritis, when the patient is very anæmic and other means have failed to afford relief.

The selection of the method, whether vaginal, abdominal, or a combination of the two, by means of which the diseased uterus shall be removed, will at the present time depend largely upon the size, benignity, or malignity of the tumor, and upon the character of the adhesions which exist in a given case, as well as upon the personal experience and predilection of the individual operator.

Wathen, of Louisville, Ky., in the course of a recent article on Vaginal Hysterectomy, in the *American Journal of Obstetrics and Diseases of Women*, August, 1895, said: "The dangers of immediate and secondary hemorrhage, wounding the bladder, ureters, or intestines, and the difficulty of maintaining asepsis, are arguments used against vaginal hysterectomy, but these objections are not well founded, and the experience of Péan, Richelot, Segond, Jacobs, and others, has proved that these dangers are less than in coliotomy."

The results following upon the performance of hysterectomy by the average operator may be stated at the present time to be represented by a rate of mortality of fifteen per cent., whether the vaginal or abdominal route is followed; while in the hands of more experienced men the death-rate has fallen as low as 2.9 per cent. This latter result has been recorded by Jacobs as following upon four hundred and three uterine extirpations by the vaginal route performed by him.

\* Read before the Society of Alumni of Bellevue Hospital, June 3, 1896.



The patient is best prepared for the operation by the administration of a cathartic on the evening of the third day preceding the time set for its performance, rather than by administering it, as is usually the case, on the previous evening. The longer interval allows the patient to recover from the depressing effect of the medicine. During this time solid food should not be allowed, and each evening the patient should be given a warm bath, and a vaginal douche of boric-acid and bichloride solutions after the bath and douche have been given on the evening prior to the day of operation. The abdominal wall, thighs, and external genitals should be shaved, and, after thorough washing with a bichloride solution, a compress wet with the same is applied, and bound on to the abdominal wall over the site of the proposed or possible incision. It is allowed to remain in place until the patient is placed on the operating table, or until it is desired to incise the abdominal wall. It is well, in all cases, to prepare the patient, as has been described, for both a vaginal and an abdominal operation, for it frequently happens that the operator, beginning his work by one route, is obliged to finish by the other.

The operation should be performed as early in the day as possible. If, however, it must be postponed until the afternoon, the patient may, on awakening, be given a peptonized milk punch. A large enema should be administered at least six hours before the time set for the operation. The patient is anæsthetized, and is placed in the lithotomy position, the thighs being held in place by means of a Clover crutch. After catheterism, the external genitals and vagina are once more scrubbed, and the vagina is douched with a bichloride solution. The exposed portions of the patient's body, not in the field of operation, are covered by sterilized towels. The perinæum is retracted by means of a Simon retractor, and the cervix is seized by a bullet forceps and drawn downward. A double uterine catheter is passed into the uterine cavity, and it is washed out with a bichloride solution. The cervical canal is next cauterized with the Paquelin cautery, and is closed by sutures passed through the lips of the os. The parts are finally irrigated with bichloride and saline solutions.

The cervix is next drawn forward and upward, and the forceps held by an assistant while an incision is made around the cervix, through the vaginal wall, and then with a pair of blunt scissors, curved on the flat, the tissues are divided posteriorly until Douglas's pouch is reached. This is opened, first by an incision, and then by opening the blades of the scissors widely, divulsing the tissues. A needle, armed with silk, is now passed through the peritonæum and the posterior vaginal wall, in one or two places, and this is tied so as to prevent the slipping away of the peritonæum. The cervix is next drawn downward and forward as far as possible, and the anterior vaginal wall is picked up with another bullet forceps, about a third of an inch below the meatus urinarius, and an incision is made with a scalpel

through the anterior vaginal wall, beginning at this point and continuing to the cervix. The flaps are dissected laterally as far as possible, in order that sufficient room for manipulation may be had. Needles armed with heavy silk are passed through either flap, the silk tied, and the ends, which are left long, are held by assistants, thus retracting the tissues. A sound is introduced at this juncture into the bladder, with the curved beak turned outward, which procedure sharply defines its lower border and the union with the cervix. Below this latter point a curved transverse incision is made with a scalpel, and the bladder is separated from the uterus by blunt dissection with the fingers. This diminishes the chance of injury to the vesical wall, and, as the ureters are pushed up out of the way, there is practically little danger of their being included in the ligature which is passed about the uterine artery of either side. This obviates the necessity of employing Kelly's ureteral bougies. The vesico-uterine fold of peritonæum is next drawn down and incised by scissors. The pelvis is now elevated somewhat, and the bladder and intestines are seen to fall away from the vaginal wall and uterus. The pelvic cavity can now be explored by sight as well as by touch. A needle, armed with heavy silk, is passed as near the fundus of the uterus as possible, and the organ drawn forward. There is usually little difficulty in extracting the fundus and bringing into view the broad ligaments and the annexa. The ligaments are folded over upon themselves. A curved needle, armed with heavy silk, should be passed through this folded broad ligament on either side, and the ends left long, so that in case of hæmorrhage after the tissues are divided and retracted they may again be brought into view. The ovarian artery can be felt, and is best ligated by passing a curved needle, armed with catgut, directly around it, as little tissue being included as possible. The ligature is tied and its ends are cut off short. The round ligament is also tied in a similar manner before division. The ovarian vessels and round ligaments on both sides having been ligated and divided, the fundus is released, and the uterine vessels are secured as closely as possible to the uterus. The remaining tissues are divided, and the uterus and annexa removed.

When reliable catgut, preserved in alcohol, can be procured, it should be preferred for ligature material, as it absorbs moisture and swells rapidly after it has been applied, thus holding the parts more tightly than when it is first tied. The vaginal wound is closed, but not until the vaginal wall on either side has been attached to the stumps of the broad ligaments. After irrigation, the vagina is loosely packed with iodoform gauze. Many operators, especially the French, use clamps to secure the vessels, and while this method has the advantage of being more rapid, the ligation of the vessels is in many ways preferable, especially as it admits of the closure of the wound. The use of the clamp would seem to increase the danger of septic infection of the peritonæum, and

of the formation of intestinal adhesions. If clamps are used, they should, after their handles have been securely tied, be left in place for sixty hours, when they should be cautiously removed. The vagina is then to be douched with boric-acid solution at a low pressure, and this treatment is continued daily unless a rise of temperature occurs, in which case it should be followed by a douche of bichloride, 1 to 4,000. It is important that the elevation of the reservoir containing the fluid be not great, for there is some danger that the newly formed adhesions may be ruptured. This danger does not exist when the vessels are ligated and the wound is closed.

Usually the operation is followed by little pain; but, if the patient is restless and complains, there would seem to be no good reason why morphine should not be given.

If the conditions are such that it has been decided to extirpate the diseased uterus by means of an abdominal incision, then, after the patient has been prepared, as heretofore described, vaginally as well as abdominally, and placed under the influence of the anæsthetic, the compress is removed, and the integument is finally prepared by scrubbing and washing it with alcohol and ether and bichloride solution. The patient's chest, upper abdomen, and limbs are covered with sterilized towels, and the operator begins by opening the abdominal cavity by an incision a little to the left of the linea alba, separating the fibres of the muscle after the division of the fasciæ. After the opening of the peritoneal sac, a needle, armed with heavy silk, is passed through all the layers at several points on either side, and the ends of these sutures are left long after they are tied, so that they may be used to retract the parts as well as to prevent the separation and displacement of the different layers. The patient is next placed in the Trendelenburg position, and the tumor examined. If proved not to be of a malignant character, the procedure employed and described by Kelly in the Bulletin of the Johns Hopkins Hospital for February and March, 1896, would seem to the writer to be all that could be desired.

"The right or left ovarian vessel is ligated near the pelvic brim and a clamp is placed toward the uterus, and, cutting between ligature and clamp, the round ligament of the same side is tied off near the uterus and divided, and the two incisions connected in order to open up the top of the broad ligament. An incision is now made through the vesico-uterine peritonæum from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge so as to expose the supravaginal cervix. The body of the uterus is now pulled to the opposite side to expose the uterine artery low down on the side opened up. The vaginal portion of the cervix is located with the thumb and forefinger, and the uterine artery is seen or felt, and is tied just where it leaves the uterus. The cervix is now cut completely across just above the vaginal vault, severing the body of the uterus from the cervical stump,

which is left to close the vault. As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up, the other uterine artery comes into view, and is caught with artery forceps about an inch above the cervical stump. Rolling the uterine body still farther out, the right round ligament is clamped and cut off, and lastly, the ovarian vessels on that side are clamped and divided at the pelvic brim. Ligatures are now applied, and the operation is finished by closing the cervical tissues over the cervical canal, and then by drawing the vesical peritonæum and anterior layers of the broad ligament over the entire wound area and attaching it to the posterior peritonæum by a continuous suture."

The chief advantages alleged for this method are, the rapidity with which it can be performed, lessened danger of injuring ureters, and greater facility in shelling out subpelvic peritoneal fibroids and breaking up adhesions. The operation is finished by closing the abdominal wound without drainage.

If it is desired to use the combined method, as in cases of malignant disease of the uterus, the operation is begun by incising the vaginal mucous membrane all around the cervix, opening Douglas's pouch, separating the bladder from the anterior surface of the uterus, and ligating the uterine artery on either side of the uterus. Iodoform gauze is then placed in the vagina. The patient, after the removal of the abdominal compress and proper preparation of the abdominal integument, is placed in the Trendelenburg posture and the abdomen rapidly opened. The ovarian vessels and round ligaments are tied off and divided, and the diseased parts removed. The wound in the pelvic floor is repaired in the usual manner; the sutures are placed in the abdominal wall, passing through all the layers, and the patient is lowered into the horizontal position. The abdominal cavity is now flushed with hot saline solution, a quantity of which is allowed to remain in the cavity, and the sutures already placed in the abdominal wall are drawn up and tied loosely. The swelling of the tissues which soon follows their division is depended upon to bring the edges of the skin into close contact. Acetanilide powder is dusted over the line of the incision, and over this the usual dressing of gauze is placed, and retained in position by straps of adhesive plaster.

CASE I.—C. F., a single woman, twenty-one years of age, was admitted to the gynecological ward of the City Hospital on May 13, 1894. She stated that her first menstrual period occurred during her fifteenth year, and that her menstruation had been irregular and painful. In her seventeenth year she had had a miscarriage at six months, one week after which occurrence she had been admitted to a hospital, suffering from peritonitis (?), and had been subjected to a laparotomy, and one ovary removed. Ever since her recovery she had had constant pain in her back, in her left side, and down her left thigh. For several months prior, and at the time of her admission to the City Hospital she had suffered from metrorrhagia. Repeated cu-

retage at intervals failed to afford relief, and as the patient was anæmic, suffering much pain, and becoming exhausted, it was deemed advisable to remove the uterus. After preparation, the patient was placed under ether narcosis, and hysterectomy was performed by the combined vaginal and abdominal method. Adhesions of the viscera contained in the pelvic cavity were met with, and these proved to be very vascular when ruptured. The resulting hæmorrhage was controlled by the use of hydrogen dioxide. The remaining ovary proved to be diseased. With the exception of the occurrence of some stitch-wound infection and suppuration, the convalescence was uneventful.

CASE II.—F. C. A., a single woman, forty-two years of age, was admitted to the gynecological ward of the City Hospital early in December, 1894. She stated that her first menstrual period had occurred during her fourteenth year, and that it had been followed by regular menstruation of the monthly type. She had had two children, the last one having been born sixteen years ago. Seven weeks prior to her admission, and during her regular period, she began to flow profusely, and after this had continued for two weeks she received treatment, but the flow had continued. Vaginal examination revealed the fact that a vascular growth existed on the cervix, and a portion was removed and sent to Dr. Ira Van Gieson for microscopical examination. He pronounced it to be an epithelioma. On December 8th, after the preparation of the patient had been effected, and under ether narcosis, hysterectomy by the combined method was performed. The convalescence was uneventful, excepting for the occurrence of a superficial abscess in the incision through the abdominal wall.

CASE III.—R. M., a single woman, seventeen years of age, was admitted to the gynecological ward of the City Hospital on December 17, 1894. She stated that her first menstrual period had occurred during her eleventh year, that it had been painful, and that after the first year menstruation had been regular and of the monthly type. About one year prior to her admission she had first noticed a vaginal discharge which had since continued. It had been accompanied by severe pain in her back and abdomen, especially in the left inguinal region. Her appetite had been poor, and she had been costive. A vaginal examination revealed the fact that the uterus was anteflexed, enlarged, and tender, as were both tubes, and that there was a purulent uterine discharge. Bilateral pyosalpinx was diagnosed and, on January 17, 1895, after proper preparation, the patient was placed under ether narcosis, and abdominal hysterectomy performed. The patient's convalescence was uneventful. On January 29th it was recorded that the wound had healed, and that the patient was feeling well, and was allowed to sit up in bed. At a later period, the writer's colleague, Dr. Pryor, reported that the right ureter had been injured, and that urine escaped into the vagina.

CASE IV.—A. P., a married woman, thirty years of age, was admitted to the gynecological ward of the City Hospital on January 18, 1895. At that time she stated that she had had four children, the youngest of whom was six months of age. She also stated that her health had been good until about three months prior to her admission, when she had begun to have chills, followed by fever, to lose flesh and strength, and to suffer from severe pain in her back and lower abdomen. This was accompanied by a fetid vaginal discharge, tinged at times with blood. She had had insomnia, and had been cos-

tive. Examination showed the patient's general condition to be poor, and that her bodily temperature was 103.6° F.; that her pulse-rate was 108, and that her respirations were 28. Vaginal examination revealed the facts that a cauliflower growth existed, which involved the cervix and a limited portion of the posterior vaginal wall, and that the uterus and tubes were enlarged and tender. On January 19th, after the usual preparations, and under ether narcosis, vaginal hysterectomy was performed (Mackenrodt's incision). After removal, the tubes and ovaries were found to contain pus, and microscopical examination proved the cervical growth to be an epithelioma. The convalescence was uneventful.

CASE V.—A. W., an unmarried woman, twenty years of age, was admitted to the gynecological ward of the City Hospital on January 14, 1895. She stated that her first menstrual period had occurred during her fourteenth year, and that menstruation had been painful, but regular, and of the monthly type. She had had no children, but had had one miscarriage. For several months she had had a free vaginal discharge. Recently she had had pain in her left inguinal region, and the vaginal discharge had become more profuse. She had also suffered from pain in her head and back, and her appetite had become poor. Vaginal examination revealed the fact that both tubes and ovaries (especially those on the left side) were enlarged and tender, and also that there was a purulent discharge from the uterus. On January 22d, after the usual preparations, and under ether narcosis, vaginal hysterectomy was performed (Mackenrodt's incision). Convalescence was uneventful.

CASE VI.—At the meeting of this Society of Alumni of Bellevue Hospital, held on May 1, 1895, the writer reported the case of Mrs. E., who had been suffering from uterine myoma, and a tumor located posterior to the uterus. It was supposed to be an ovarian carcinoma, but proved to be composed of phleboliths. Vaginal hysterectomy was performed, the anterior vaginal wall being incised longitudinally. The convalescence was both rapid and uneventful.

CASE VII.—M. F.A., a married woman, thirty-eight years of age, was admitted, on January 21, 1896, to the gynecological service at the City Hospital. She stated that her first menstrual period had occurred during her tenth year, that it had been painless, regular, and of the monthly type. She had had twelve children and two miscarriages, the last a year and a half ago. Since that time her menstruation had been irregular and profuse. Five months prior to her admission the character of her menstrual discharge had changed, becoming fetid, and later it had also become light colored and watery. She had previously undergone two uterine operations the nature of which she was unable to state. She had been costive. Of late she had been losing flesh, strength, and appetite, had had night sweats, and had suffered from pain and soreness in her right inguinal region. On January 22d a thoracic examination yielded a negative result, but vaginal examination revealed the facts that the uterus was slightly enlarged, and that the cervix was indurated. Under chloroform narcosis the cervix was dilated, and some uterine tissue removed by means of the sharp curette for microscopical examination. This was made by Professor E. K. Dunham, of the Carnegie Laboratory, who reported on January 23d the results of his examination, as follows: "Although the bits of tissue you see, as the result of curetting the uterus, are very small, microscopical study of them leads



me to think your suspicions of carcinoma are well founded. I find strands of epithelium, apparently derived from the glands of the uterus, which are certainly atypical, and which even without the clinical evidence would lead me to believe that there was a beginning carcinoma."

On January 27th, the patient, after having been prepared in the usual manner and placed under ether narcosis, was subjected to vaginal hysterectomy. The anterior vaginal wall was incised, as in Mackenrodt's operation for retrodisplacement, and the technic already described followed, excepting that the ligatures were applied to the ends of the vessels instead of being passed around them with a needle, as has been the writer's usual custom. The ligatures placed on the right uterine and left ovarian arteries having been pulled on by the mistake of an assistant, they slipped off, and free hæmorrhage resulted. As the patient was already suffering from shock clamps were applied and left in place. The longitudinal incision in the anterior vaginal wall was alone closed by suture. Iodoform gauze was packed loosely into the vagina. A catheter was introduced into the bladder and retained by a catgut suture, and the dressings applied. The patient was stimulated by enemata of coffee and saline solution. Strychnine and morphine were also given hypodermically. She passed a comfortable night and was allowed to drink water freely. On January 29th the dressings, clamps, and catheter were removed, and the external genitals and vagina douched with a 1-to-4,000 bichloride solution, followed by a douche of saline solution, and external dressings only were applied. The patient was at this time placed on light diet, and her further convalescence was uneventful, her highest bodily temperature having been 100.8° F.

CASE VIII.—M. B., a married woman, forty-nine years of age, but who had not lived with her husband for twenty-five years, stated, when first seen by me on April 4, 1896, that her first menstrual period had occurred during her fifteenth year, and that menstruation had been regular, and of the monthly type, but accompanied by pain at first. She had married during her nineteenth year, and had had three children. She had had two miscarriages. Her last menstrual period had occurred during November, 1895. Two years ago the patient became aware that she had an abdominal tumor, and she suffered from bearing-down pains, accompanied by menorrhagia. The tumor gradually increased in size until November, 1895, when it began to enlarge rapidly. Abdominal palpation revealed a tumor somewhat movable, and reaching to a point a little above the umbilicus. On vaginal examination, while the tumor could not be reached, it seemed to be attached to the uterus. The patient's family physician having assured me of the fact that he had made an examination of the urine and had found it normal, a laparotomy was decided upon, and on April 12th it was performed at the patient's residence. On opening the abdominal cavity the tumor presented at once, and proved to be a large fibroid attached by a pedicle to the fundus. It was covered in front by omentum, which adhered to it, but otherwise it was free from adhesions. As the body of the uterus contained several small tumors of a like nature, it was decided to remove the uterus and annexa, as well as the tumor. This was accomplished without much difficulty. The pelvic cavity having been freely flushed with saline solution, the vaginal wound was closed. Some more saline solution was poured into the abdominal cavity and allowed to re-

main there. The wound in this wall was now closed. The operation, from the time of the administration of the anæsthetic to the closure of the abdominal wall, occupied about an hour. The patient regained consciousness promptly, and suffered but little from nausea and shock. On the following morning, when I left, her condition seemed favorable, excepting the fact that but little urine had been secreted. On the 14th her bowels moved freely after the administration of a saline cathartic, and the urinary flow seemed about to be re-established; but, in spite of all efforts, she died on the 18th.

Of the eight patients whose cases have been reported, and upon whom hysterectomy was performed, seven recovered and one died. In two instances (Cases I and II) the uterus was attacked by the combined method; in two others, by the abdominal route (Cases III and VIII); and the remaining four by the vaginal (Cases IV, V, VI, and VII).

The first case is of interest mainly on account of the condition for which the uterus was extirpated—i. e., hæmorrhagic endometritis. Sivitalski reports (*Centralblatt für Gynäkologie*, 1895, No. 33) a similar case, occurring in a woman, twenty-nine years of age, upon whom he performed hysterectomy after the failure of curettage to relieve the patient. A careful examination of the specimen threw no light upon the cause of the hæmorrhage, as the only pathological change noted was a minor degree of interstitial endometritis. The annexa in this case were normal. The patient recovered. The writer calls attention to the rare occurrence of metrorrhagia without any discoverable local or general cause, and regards it as a clear indication for total extirpation (*American Journal of the Medical Sciences*, January, 1896).

The special point of interest in the third case is the reported injury to the ureter, which did not make itself manifest till more than two weeks had elapsed after the performance of the operation. In Case VII, the operation was complicated by the slipping of the ligatures, necessitating the use of clamps to arrest the resulting hæmorrhage. In Case VIII, the neglect to make a careful examination of the patient's urine, and consequent failure to discover the existence of renal disease, led to the fatal result. Cases IV, V, VI, and VII are of interest on account of the vaginal technic employed, which has been heretofore described, and to which Vineberg has also called attention.

It is the writer's belief, founded both upon his own experience and his observation of the work of other surgeons, that while in many instances the vaginal route will prove entirely satisfactory, yet in those cases where the tumor is of large size, or firm adhesions exist, the abdominal operation and the method advocated by Kelly, of Baltimore, will prove more satisfactory; while in still another class of cases, especially those of a malignant character, the combination of the lower and upper routes, offers decided advantages over either of the other meth-

ods, and will afford the most favorable results for both the patient and operator.

55 WEST THIRTY-SIXTH STREET.

## FURTHER STATISTICS ON ECHINOCOCCUS DISEASE IN THE UNITED STATES.

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IN vol. lxii, No. 21 of this *Journal* (1895) \* I gave a summary of sixty-seven cases of echinococcus disease recorded in medical literature for the United States. Since publishing that article I have been able to trace thirty-three other cases, thus making a total of a hundred cases compiled for this country. The additional thirty-three cases are recorded as follows:

Adding the cases given above to the tables of nationality, geographical distribution, sex, habitat, and age, we find the following statistics:

### Classification by Nationality or Color.

	Sommer, '95.	Sommer, '96.	Total.
Azorian.....	0	1	1
Colored.....	1	0	1
English.....	4	1	5
Foreigners.....	2	0	2
French.....	2	0	2
German.....	6	9	15
Irish.....	0	2	2
Italian.....	3	2	5
Japanese.....	0	1	1
Mexican.....	1	0	1
Mulatto.....	2	0	2
Negro.....	1	1	2
Pole.....	1	0	1
Swede.....	1	0	1
Welsh.....	0	1	1
White.....	0	4	4
Unstated.....	43	11	54
Total.....	67	33	100

Date of publication.	Publication.	Volume or number and page.	Observer.	Habitat.	Nationality or color.	Sex.	Age.	City.
1822	<i>N. Y. Med. and Phys. Jour.</i>	i, pp. 287-9.	Low, J.	Hydatids in bladder.	White.	M.	29	Albany, N. Y.
1822	<i>Ibid.</i>	i, pp. 287-9.	Low, J.	Hydatids in liver or ovary.	White.	F.	73	Albany, N. Y.
1841	<i>Western Jour. of Med. and Surg.</i> (Louisville).	2, S. iv, pp. 34-5.	Polk, J. J.	Liver.	White.	M.	65	Perryville, Ky.
1846-7	<i>Annalist</i> (New York).	i, pp. 253-5.	Moses, I.	Hydatids of liver.	.....	M.	Adult.	Fort Columbus, Governor's Island.
1849-50	<i>Buffalo Med. Jour.</i>	v, pp. 80-2.	Granger.	Hydatids of brain ventricles.	.....	M.	60	Lawrenceville, (?) N. Y.
1856	<i>Boston Med. and Surg. Jour.</i>	liv, p. 344.	Ellis, C.	Liver.	Italian.	F.	28	Boston.
	<i>Extract Rec. Boston Soc. Med. Improv.</i>	ii, p. 332.	Ellis, C.	Liver.	Irish.	M.	24	Boston.
1856	<i>Ibid.</i>	ii, p. 332.	Ellis, C.	Liver.	Welsh.	F.	34	Newport, Ky.
1856	<i>Western Lancet</i> (Cincinnati).	xvii, pp. 680-94.	Evans.	Hydatids in abdomen.	White.	F.	73	Franklin, Williamson Co., Tenn.
1858	<i>Boston Med. and Surg. Jour.</i>	lvii, pp. 218-20.	Gay, G. H.	Echinococcus in lungs.	.....	M.	71	Boston.
1869	<i>Cincinnati Lancet and Obstet.</i>	N. S. xii, pp. 539-43.	Marsh.	Kidney.	.....	M.	53	Indian Hill, Ohio.
1871	<i>Proc. of Path. Soc. of Phila.</i> (Mustin).	iii, p. 146 (1866-'76).	Nancerede.	Liver degenerated and atrophied, hydatid cyst of.	.....	M.	Adult.	Philadelphia.
	<i>Am. Jour. of the Med. Sci.</i> (new series) (Mustin).	lix, pp. 417-21.	Nancerede.					
1874	<i>Boston Med. and Surg. Jour.</i>	xc, pp. 555-9.	Ellis, C.	Liver.	Azorian.	M.	43	Boston.
1877	<i>Clinic</i> (Cincinnati).	xii, pp. 157, 169, 181.	Pierce.	Liver.	.....	M.	45	Indianapolis.
			Bartholow, Campbell.					
1877	<i>St. Louis Med. and Surg. Jour.</i>	xiv, pp. 420-1.	Dean.	Echinococcus multiloc. liver.	Negro.	F.	.....	St. Louis.
1878	<i>Virginia Med. Monthly</i> (Richmond).	iv, pp. 666-70.	Drude.	Liver.	German parents.	M.	44	Quincy, Ill.
1878	<i>Philadelphia Med. Times.</i>	viii, pp. 609-11.	Delafield.	Hydatids of omentum.	German.	M.	46	New York city.
1878	<i>Medical Record</i> (New York).	xiv, pp. 281-3.	Loomis, A. L.	Hydatids of lung.	Irish.	M.	43	New York city.
1880	<i>Cincinnati Lancet and Clinic.</i>	iv, N. S., p. 495.	Hart.	Echinococci of liver.	German.	M.	.....	Cincinnati.
1881	<i>Am. Jour. of Obstet.</i> (New York).	xiv, pp. 106-11.	Edridge, S.	Bladder.	Japanese.	F.	20	Washington, D. C.
1883-4	<i>New England Med. Monthly</i> (Sandy Hook, Conn.).	iii, p. 106-11.	Helm, W. H.	Hydatids of liver.	English.	F.	26	Sing Sing, N. Y.
				Hydatids of liver.	German.	F.	40	Sing Sing, N. Y.
1884	<i>Trans. of Med. Soc. of Pennsylvania</i> (Philadelphia).	xvi, p. 474.	Sheaffer.	Hydatids of liver.	.....	M.	54	Lewistown, Mifflin Co., Pa.
1884	<i>St. Louis Courier of Med.</i>	xii, p. 455.	Carson.	Hydatids of liver.	.....	M.	Adult.	St. Louis.
1885	<i>Medical Record</i> (New York).	xxvii, p. 261.	Mayer, N.	Liver.	.....	F.	38	Hartford, Conn.
1886	<i>Philadelphia Med. Times.</i>	xvii, p. 180.	Bauer, Charles.	Liver.	German.	M.	35	Philadelphia.
1892	<i>Sjogren's Annual of Universal Med. Sci.</i> ; also, <i>N. Y. Med. Journal</i> .	i, c. 33.	Solis-Cohen.	Liver.	German.	M.	Adult.	Philadelphia.
.....	Unpublished.	lxii, p. 763.	Custis, J. B. G.	Liver.	Italian.	M.	Adult.	Philadelphia.
				Vomited (or expectorated?).	German.	M.	Adult.	Washington, D. C.
1893	<i>Medical News.</i>	i, pp. 365-9.	Stamm, M.	Abdominal cavity.	German.	F.	49	Cleveland, Ohio.
1895	<i>Medical Record.</i>	September.	Page, H. M.	Liver, pleura, omentum, mesentery, peritoneum and bladder.	German.	F.	51	Hiram, Ohio.
1896	<i>The Evening Star</i> (Philadelphia).	June 13.	.....	Liver.	.....	M.	.....	Muskegon, Mich.

\* H. O. Sommer. Echinococcus Disease in the United States. *N. Y. Med. Jour.*, lxii, November, 1895, pp. 656-659.

## Geographical Distribution.

	Sommer, '95.	Sommer, '96.	Total.
Alabama.....	2	0	2
California.....	1	0	1
Connecticut.....	0	1	1
District of Columbia.....	2	2	4
Illinois.....	2	1	3
Indiana.....	0	1	1
Kentucky.....	0	2	2
Louisiana.....	1 (or 2)?	0	1 (or 2)?
Massachusetts.....	1 (or 2)?	4	5 (or 6)?
Missouri.....	5	2	7
Michigan.....	0	1	1
New Jersey.....	1	0	1
New York.....	25	8	33
Ohio.....	3	4	7
Pennsylvania.....	4	6	10
Tennessee.....	0	1	1
Texas.....	1 (+?)	0	1 (+?)
Vermont.....	1	0	1
Virginia.....	2	0	2
Washington.....	1	0	1
Unstated.....	15	0	15
Total.....	67	33	100

## Classification by Sex.

	Sommer, '95.	Sommer, '96.	Total.
Males.....	26	21	47
Females.....	17	11	28
Unstated.....	24	1	25
Total.....	67	33	100

## Classification by Habitat.

	SOMMER.		Auct.*	Osler (cases).†	Total.
	'95.	'96.			
Liver.....	40	22	942	7	1,011
Lung.....	5	2	140	..	147
Passed <i>per rectum</i> .....	2	..	..	..	2
Spleen.....	3	..	37	2	42
Brain.....	3	..	..	..	3
Abdominal wall.....	1	..	..	..	1
Vomited.....	1	1	..	..	2
Expectorated.....	2	..	..	..	2
Common bile duct.....	2	..	..	..	2
Bones.....	1	..	..	..	1
Bladder.....	4	2	..	..	6
Eye.....	1	..	..	..	1
Pericardium.....	1	..	..	..	1
Ovaries.....	1	..	..	..	1
Uterus.....	3	..	..	..	3
Trunk and limbs.....	..	..	4	..	4
Kidneys.....	3	..	123	..	126
Neck (fascia).....	1	..	..	..	1
Stomach.....	1	..	..	1	2
Extensors of thigh.....	1	..	..	..	1
Pleura.....	..	1	19	..	20
Respiratory apparatus.....	..	..	53	..	53
Cranial cavity.....	..	..	91	..	91
Spinal canal.....	..	..	13	..	13
Pelvis.....	3	..	70	2	75
Peritoneum and omentum.....	..	1	61	..	62
Mesentery and omentum.....	..	1	..	..	1
Female genital organs and mammarys.....	..	..	60	..	60
Male genital organs.....	..	..	9	..	9
Face, orbit, and mouth.....	..	..	41	..	41
Neck.....	..	..	18	..	18
Abdomen.....	..	2	..	..	2
Omentum.....	..	1	..	..	1
Brain (ventricles).....	..	1	..	..	1
Total.....	79	34	1,681	12	1,806

\* Madelung, Finsen, Neisser, Böcker, Davaine; cases recorded in other countries.

† Osler's cases; collected for Canada.

## Classification of Cases by Age (frequently indefinitely stated).

AGE (YEARS).	Sommer, '95.	Sommer, '96.	Sommer, total American.	Auct.*	Total
0 to 10.....	1	..	1	53	54
11 to 20.....	1	1	2	150	152
21 to 30.....	6	5	11	263	274
31 to 40.....	10	4	15	210	225
41 to 50.....	2	6	8	130	138
51 to 60.....	4	4	8	74	82
61 to 70.....	..	2	2	34	36
71 to 80.....	..	3	3	15	18
Over 80.....	..	..	..	2	2

\* Helm, Böcker, Krummacher, Finsen, Neisser, and Wolff; cases recorded in other countries.

The case recorded by Ellis (1874) is of especial interest; it occurred in a seafaring man, a native of the Western Isles (Azores), who had spent part of his life in China. In Australia he was engaged as a miner and farmer, in which connection it is well to note that echinococcus disease has been frequently recognized in Australia. As the case stands reported, the conclusion very likely to be drawn is "acquired in Australia," and perhaps this is what the observer inferred; as the subject, however, was a seafaring man, a calling likely to lead him to various parts of the globe, and as there was no statement contradictory to the likelihood of his having been in other parts of the world, the deduction that he acquired the disease in Australia is not an entirely logical one. It is therefore of great importance that cases occurring in foreigners or people who have traveled in foreign parts—for instance, sailors—should be traced not only to any one known probable source of infection, but to all known possible sources of infection.

For example, the case of an Englishman from Honolulu which came under Bernays's notice in St. Louis (Osler, *Am. Jour. of the Med. Sci.*, 1882, pp. 475-478; see my former paper) is interesting, as it suggests the Sandwich Islands as a possible field of hydatid disease; but, on the other hand, the patient, being an Englishman, is evidently a traveler, and may have acquired the disease in Australia.

Another interesting case is that of a Japanese female observed by Eldridge in Washington, D. C. (*Am. Jour. of Ob.*, New York, 1881, xiv), as it is the only case I have found in the United States occurring in a native of Japan. Likewise, the case reported by Evans (*West. Lancet*, Cincinnati, 1856, xvii, pp. 680-694) is notable as the only case I have found in a native of Wales.

Since my article of last year, Van Cott, of Brooklyn, has informed me that his case occurred in a Mexican, the only case I have found in Mexicans in the United States.

I will again call attention to the opinion emphasized by Solis-Cohen, that the nativity of patients should be carefully considered, and, further, that it is to be regretted that in the cases heretofore reported nationality has been so often unstated. This lack of detail caused me to suggest the possibility that those cases in which



nationality was unstated might have occurred among foreigners, whereas, on the other hand, they may have occurred among the native-born. My attention has since been called to the fact that I omitted Freund and Chadwick's Four Cases of Echinococcus in the Female Pelvis (*Am. Jour. of Ob.*, New York, 1874-'75, vii) which I did on merely presumptive grounds. I have since been informed by Dr. Chadwick that I am correct in excluding the cases in question from American cases as they were observed by him in Dr. Freund's clinic in Breslau. In looking over the reports of cases, it soon becomes evident that it is no easy matter to exclude from or include in a collection of cases of echinococcus cases reported as such merely on the evidence submitted in the articles. Further, it is well to note here that, while the literature of the country is full of reports of cases of so-called hydatids of the uterus, and while the observers of some of the cases, possessing a slight knowledge of *Tania echinococcus*, have attributed the conditions observed by them to the rare *Tania echinococcus* of the dog, these writers have reference to other conditions known to gynecologists as uterine hydatids, pregnancy (molar, hydatiform), and not to the true hydatid of *Tania echinococcus*.

The case published by me last year as

1852. *N. Y. Med. Times*. Weber. Cyst in liver.

I have traced as

1852. *N. Y. med. Wochenschrift*, April. Weber. Liver. German. Male. 26. N. Y. city.

That of

1886. *Med. News* (Philadelphia), vol. xlv, pp. 78-9. Whittaker. Echinococcus in liver. German. Male. 60. Philadelphia.

as

*Cincinnati Lancet and Clinic*, N. S., 16, pp. 704-16. Whittaker. Echinococcus in liver. German. Male. 69. Cincinnati.

I am under especial indebtedness to Dr. Hassall for references to the new cases and to Dr. Stiles for important counsel in regard to the omission of doubtful cases, also to the gentlemen of the Surgeon-General's Library for extreme courtesy in aiding me in gathering cases.

## THE SOLVENT PROPERTIES OF THE BUFFALO LITHIA WATERS OF VIRGINIA.

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It has been said that "if we wish to ameliorate the human race, it is in medicine that we must seek the means."

Time has amply demonstrated the truth of these words, and in no department of therapeutics have so great services been rendered as in the treatment of disease by mineral waters. Experience has permitted us to add as a corollary to this, that if we wish to dissolve concretions from the blood and different viscera and prevent their reformation in the sanguineous fluid, as

well as their deposit in the organs of the body, it is the Buffalo lithia waters of Virginia that we must prescribe.

The Great Physician has provided for the sons and daughters of men a remedy so subtle in its composition and so sure in its working as to excite the wonder of the most profound chemist and the most skillful practitioner. Let these waters be analyzed and the component parts be used in precisely the same proportions, as regards weight and chemical purity, in compounding an artificial water, presenting an exact reproduction of the natural water taken from the spring, and, by some mysterious process of Nature that we know not of, their solvent power is diminished or reduced to zero. Still more inexplicable is the fact that the salts composing the Buffalo lithia waters of Virginia act with considerable rapidity in dissolving uric acid and other calculi, whether hepatic, renal, or vesical, in very weak solutions, while stronger ones are less active or fail altogether. Dr. Roberts, of London, has given us very valuable data on this subject (*vide Archives of Medicine*, vol. iii). He placed fragments of uric-acid calculi, weighing from forty to a hundred and twelve grains each, in ten-ounce phials of carbonate solutions, analogous to that found in Spring No. 2 of the Buffalo lithia waters, these solutions being of various strengths. The experiments were continued day and night for some time, the daily flow of water varying between six and fifteen pints. Operating in this way, he found that above a strength of a hundred and twenty grains to the pint no solvent action was exerted, and even with eighty grains to the pint there was only a little; but in solutions of sixty grains to the pint the solvent action was more noticeable, but began to act decidedly at fifty grains to the pint; at forty grains to the pint the activity was further increased, and so on down, the solvent action being stronger and more speedy as the strength of the solution was diminished and approached the quantities contained in the analysis of Spring No. 2, which is justly considered to be the most powerful and perfect solvent of the various forms of calculi known to science, and not of calculi only, whether of the red lithic or uric acid or the triple phosphate of ammonium-magnesium variety, but also of morbid concretions in general, such as albumin, sugar, cholesterin crystals, etc.

Many years ago, while I was resident physician at these world-renowned springs, a patient suffering from renal calculi of red uric-acid composition, wishing to assure himself of the potency of the Buffalo lithia waters as a solvent, placed a small bit of calculus passed by himself, and of about the size of the head of a large pin, in a goblet filled with the water of Spring No. 2, leaving the same covered on a shelf in his bedroom. Two weeks later he brought us the intelligence that the bit of calculus had entirely disappeared in solution with the water. Wishing in turn to verify the accuracy of a statement of such scientific importance and value, I at once undertook the follow-

ing experiments: Ten grains of a red lithic-acid calculus and an equal quantity of a triple phosphatic deposit of the whitish ammonium-magnesium formation were placed side by side in separate glass receptacles of Buffalo lithia water, Spring No. 2, containing each thirty ounces, and left standing. These vessels were not moved or touched in the slightest manner throughout the whole duration of the experiment, but remained covered with glass slabs high out of reach, for it was desired to test the solvent power exercised by the chemical action of the water upon these two typical varieties of calculi.

At the end of two weeks disintegration had already begun, and at the end of the third week the calculus had separated into three smaller fragments, which in another eight days presented a clean, water-worn appearance, with a few loose flakes floating on the surface of the water. At the end of six weeks all traces of the stone had disappeared, solution being complete. This was with the red uric or lithic-acid formation. With the other, the whitish-gray triple phosphate of ammonium-magnesium deposit, the process was somewhat different, but accomplished in the same lapse of time. Here, a whitish coating seemed to form around the original calculus, which softened it, causing it to break into many pieces resembling very coarse sand, and finally to dissipate itself and vanish altogether. The same experiment was then made with flowing water; that is, the water of Spring No. 2 was so arranged by means of a spigot and retort as to be continually renewed and to constantly wash the same amount of pebbles and of the same two varieties in the bottom of the retorts. It was found that exactly the same solvent process took place, but instead of six weeks, thirty days had sufficed to cause all traces of either stone to disappear. Analogous experiments were then undertaken with the waters of Springs Nos. 1 and 3; with the result that the water of Spring No. 1 acted a little more promptly in dissolving calculi of the triple phosphate of ammonium-magnesium than those of uric-acid concretion. Nevertheless, at the end of the thirty days dissolution was complete in both, the experiments having been carried out in every detail like those made with the water of Spring No. 2.

As regards those made with the water of Spring No. 3, the results obtained in the same manner and at the end of the same period of time, other things being equal, were as follows: Neither of the calculi was dissolved. Both, however, were carefully examined after the time prescribed by the first experiments had elapsed, and both were found to be coated with a whitish layer of about the consistence of pulp; then a second layer of the stones had become softer, the interior being slightly more friable. Neither was there any breaking into fragments, as was the case with the waters of Springs Nos. 1 and 2, and the condition of the two specimens was much the same. From this it was concluded that while the waters of Springs Nos. 1 and 2 possessed a solvent power superior to any other known mineral waters, that of

Spring No. 3 had also a solvent potency, but in a comparatively feeble degree, which furnishes a valuable therapeutic indication that will be referred to later on.

But let us come to the solvent action of the Buffalo lithia waters of Virginia inside the human body.

A chemical analysis of the waters, made by Professor William P. Tonry, of the Maryland Institute, Baltimore, gives the following results (expressed in grains to the imperial gallon):

	Spring No. 1.	Spring No. 2.	Spring No. 3.
Sulphate of magnesium.....	1-530	0-885	0-150
" aluminum.....	8-180	9-067	5-665
" potassium.....	0-465	.....	.....
" calcium.....	19-251	35-067	2-353
Carbonate of potassium.....	.....	29-309	1-852
Bicarbonate of calcium.....	39-277	14-965	2-524
" lithium.....	1-484	2-250	traces.
" iron.....	0-500	0-500	5-774
" barium.....	.....	1-750	.....
Chloride of sodium.....	1-256	4-921	0-21
" silicon.....	1-725	1-873	0-57
Phosphoric acid.....	traces.	traces.	traces.
Iodine.....	traces.	traces.	.....
Organic matter.....	small amt.	small amt.	small amt.
Total grains to the gallon....	73-666	98-376	14-47
Sulphureted hydrogen (cubic in.)...	5-9	8-3	3-4
Carbonic-acid gas (cubic in.)....	69-1	59-2	11-6

It will be observed from the analyses here appended that Spring No. 2 contains 29,300 grains of carbonate of potassium, 2,250 grains of the bicarbonate of lithium, and 4,921 grains of the chloride of sodium, a mixture made in such exact proportions when combined with the other ingredients as to surpass the most ingenious formulæ of materia medica.

Our friend and *confrère* the late Dr. J. Milner Fothergill, of London, whose authority in such matters is recognized all over the world, said: In all cases of affections of the liver and kidneys, but more especially where uric acid and lithæmia are the prominent symptoms, "soda and lithia for the liver, lithia and potash for the kidneys" (*vide Fothergill's Handbook of Treatment*) are the sovereign remedies.

My own experience covers at this late day many thousand cases in which we have prescribed and observed the solvent effects of the Buffalo lithia waters, not only at the springs themselves but in different parts of the United States and on the Continent of Europe, and I can only repeat what I have already said regarding their action when taken internally: that in the class of cases in which lithia, soda, and potash are regarded as most specially indicated I have obtained far better results from the Buffalo lithia waters than from any of the preparations of the lithium salts of the pharmacopœia; furthermore, I am satisfied that there is no other mineral water either in America or in Europe so singularly adapted to such a large number and variety of maladies.

The solvent properties of all three springs on grape sugar is immediate (as can be readily proved by placing ten or twenty grains in a test tube and adding half an

ounce of water), and their great value in the treatment of diabetes mellitus is attested by numerous cases. Although the solvent properties of these waters may be less evident *in vitro* as regards albumin, that exercised upon the albumin *in corpore* and in the blood in albuminuria and icteric fever, which it dissolves as it does the biliary elements and cholesterin crystals contained therein in the latter disease, is as remarkable as it is in lithæmia, lithiasis, and the different forms of hepatic, renal, and vesical calculi. Albumin, biliary constituents, such as cholesterine crystals and gallstones, sugar, uric acid, and phosphatic calculi are characteristic of so great a variety of diseases that they may be said to dominate all pathology; and it is because of the active solvent potency upon these different morbid concretions that the Buffalo lithia waters of Virginia are unrivaled in the treatment of so wide a range of pathological process.

It will be impossible to do more than narrate briefly one or two cases at most of each variety, from among the thousands treated by ourselves and others by these waters; the limits of a single article forbidding the introduction of long lists of cases in detail. Cases Nos. I and II are selected as typical of their class of calculi:

CASE I.—Mr. A. came to the springs with the following symptoms: constant pain in the lumbar region, being obliged to walk with his right arm across his loins as a support, of florid sanguineous temperament, nodosities of Heberden on the fingers, tongue heavily furred, passing quantities of red uric-acid gravel varying in size from the head of a pin to that of a large pea, and having had frequent attacks of nephritic colic. After a six weeks' course of the water of Spring No. 2, he returned home cured.

CASE II.—Mr. G.'s was a case of the triple phosphate of ammonium-magnesium variety. This patient was small in stature, emaciated, and pale, passing almost continuously and to a considerable amount calculi, accompanied by pain in vesical region and tenesmus of the sphincter, the urine being mixed with blood and mucus. He began upon three glasses a day of Spring No. 1, which were increased gradually to six and then to eight. At the end of ten days a decided improvement had taken place; the pain was much alleviated, the blood and mucus having entirely disappeared from the urine. In another week the calculi had taken the consistence of sand and at the end of four weeks all symptoms of disease had vanished. It was now that he was put upon the water of Spring No. 3, three glasses a day, in order to prevent the reformation of calculi and to overcome the anæmic condition.

CASE III.—Mrs. L., gallstones. This patient, like almost all others that visited the springs, had been under treatment for some time previous, having exhausted the customary remedies, such as chloroform, morphine, lithia in powders, ether in capsules, etc., without relief. The attacks had been succeeding each other every few days at the time she consulted us at the springs. Owing to some existing gastritis, the water, that of Spring No. 2, had to be begun in very small quantities, half a glass four times a day. In forty-eight hours the gastric symptoms were already alleviated and the quantity of water could be rapidly increased. This patient only

had one subsequent attack, and that shortly after her arrival at the springs, which she left at the close of the eighth week; the jaundiced color of the skin habitual with her having given place to a healthy whiteness with pink cheeks.

CASE IV. *Suppressed Gout*.—Uric acid in excess was found in the urine; there was a scarcely perceptible tophous roughness here and there along the border of the helix of the right ear, but that was all. Some emaciation. Four glasses a day of Spring No. 2, for twenty-eight days, rendered his urine perfectly normal and gave him a gain of ten pounds in weight.

CASE V. *Gout*.—This was a large, plethoric woman, weighing about two hundred pounds, who left the springs after a five weeks' course of Spring No. 2 very much benefited and having lost twenty pounds, much to her satisfaction. Repeated examinations of the urine showed it to be free from uric acid, and no crystals could be obtained after the second week; the chalky deposits and tophi in the joints had been considerably reduced in size, the smaller ones having been resorbed completely.

Unfortunately, this patient was unable to finish her course, being obliged for family reasons to return home, otherwise we should have had a *restitutio ad integrum*. By exerting their solvent power these waters accelerate the exchanges, promoting at the same time nutrition and assimilation, thereby regulating the proportion of adipose to muscular tissue.

Now follow a number of cases of lithæmia and lithiasis, which ought really to be classed as cases of uric-acid and phosphatic dyscrasiæ. Lithæmia, properly defined, is the dyscrasia of calculus or gravel, and lithiasis the complication of calculi themselves, and the term may be practically applied to all cases of spurious or abortive gout, hepatic, renal, and vesical disease characterized by mixed lithic formations not described in pathological nomenclature nor belonging to any regular pathological anatomical class. In such cases, the waters of Springs Nos. 1 and 2 act with equal promptness, purifying the blood by dissolution of the lithic elements contained therein; preventing their reformation in lithæmia and dissolving the calculi in lithiasis. In this series of cases all the calculi were of the uric-acid and triple phosphate of ammonium-magnesium varieties combined.

Stone in the bladder, whether of renal or vesical origin, and whether of oxalic, uric, or phosphatic formation, is an indication *par excellence* for the exhibition of the Buffalo lithia waters. Of the cases cured by them, perhaps the most striking is that of Mr. C., of North Carolina, who came to the springs with a large single stone in the bladder. This case places beyond all doubt the wonderful solvent power of these waters. Mr. C.'s stone, which was a triple phosphatic one, became first disintegrated into smaller fragments, these in turn into gravel, and that eventually into fine sand, until finally there was no discharge of calculous concretion in any form, and the urine, from having been strongly ammoniacal, had become perfectly normal. I received news of this



patient one year later and there had been no return of the disease.

Jaundice, which is quite a common complication in hepatic disease of almost every form and characterized by the retention in the blood of the biliary constituents, chief among which are cholesterin crystals, is quickly relieved by these waters, which dissolve the crystals and alkalize the blood.

*Albuminuria.*—These cases count by hundreds. There is no remedy so absolutely specific in all forms of albuminuria and Bright's disease, whether acute or chronic, as Buffalo lithia water, Spring No. 2, accompanied by a milk diet. In all cases of pregnancy where albumin is found in the urine as late as the last week before confinement, if this water and a milk diet are prescribed, the albumin disappears rapidly from the urine and the patient has a positive guarantee against puerperal convulsions.

We have treated quite a considerable number of diabetic and glycosuric cases with the waters of Springs Nos. 1, 2, and 3, and, where the patient persevered in the treatment to the end, with a perfect cure for a result; in others, with marked benefit; always relying upon Springs Nos. 1 and 2, at times singly and at others in combination, for the main treatment, and on Spring No. 3 as an adjuvant and chalybeate to overcome the anæmic condition usually attending such cases. The solvent action is here most marked, not only as regards the glycogen in the blood, but also the hippuric acid contained therein, and which Prout and Garrod first found in diabetic urine. (See Beale on *Urinary Deposits*.)

The two following cases of diabetes mellitus are taken from our notebook as typical of the two great classes into which all diabetic diseases are grouped—viz., *diabète gras*, fat diabetes, and thin or pancreatic diabetes.

Mr. B. was addressed to me by the late Dr. Van Bibber, of Baltimore, and when first seen by me at the springs his urine contained large quantities of sugar, three drachms to the quart, with a density of 1.045. He had marked polyphagia, polydipsia, and polyuria, being a large, fat man of the whitish type, the increase in weight coinciding with the development of the diabetic symptoms. He remained ten weeks at the springs, the quantity of sugar diminishing from the very beginning of the treatment, the appetite and abnormal thirst growing less *pari passu* until at the end of the eighth week all diabetic symptoms had entirely disappeared, he being completely restored to health; it was nevertheless considered advisable to continue the treatment two weeks longer, but in diminished quantities; four glasses of water, two of Spring No. 1 and two of Spring No. 3, were drunk during the day. This patient drank during four weeks the water of Spring No. 2 and during the second four weeks that of Spring No. 1.

The other case was that of a young lady, seventeen years of age, suffering from nervous crises, pain in the lumbar region, wasting, the urine loaded with sugar, and the patient presenting all the symptoms of pancreatic diabetes. The waters of Spring No. 2 were ordered, and fourteen days after she began to take them there was a great diminution in the quantity of sugar

observable; the nervous crises had ceased, also the pain in the lumbar region. To my regret, this young lady was now obliged to leave the springs and the case was lost sight of.

The number of cases of simple accidental glycosuria without diabetic symptoms cured by the Buffalo lithia waters is much more considerable; such cases are generally promptly relieved in a few days, sometimes in twenty-four hours.

*Appendicitis.*—Where appendicitis is dependent upon the formation of phosphatic deposit in the appendix vermiformis, the waters of Springs Nos. 1 and 2 will prevent a reformation of calculus after the operation. It is in this way that the best results will be obtained, unless it be as a prophylactic, for phosphatic appendicitis is a danger that patients with the lithic diathesis always run. During my last year as resident physician at the Buffalo lithia springs, one case of appendicitis that came under my care made a very good recovery without operation, drinking the water of Spring No. 1 throughout the entire duration of the disease.

It will be observed from the foregoing, which must be considered rather in the light of a *résumé*, that Springs Nos. 1 and 2 possess to an equal degree the solvent power which makes these waters superior to all others, not excepting the famous waters of Carlsbad. I should, however, give the preference to Spring No. 2 in all cases of the red lithic- or uric-acid dyscrasia, and to Spring No. 1 in the triple phosphate of ammonia-magnesia variety, although perhaps as many cases of the latter have been as successfully treated with the water of Spring No. 2, which is at the present day the more known to fame. I can not, in closing, insist too strongly upon the value of Spring No. 3 as an adjuvant in cases where anæmia is a symptom, not only in lithic cases but in albuminuria, diabetes, and general pathology as well. A peculiarity of the first of the two diabetic cases mentioned above was a certain proportion of inosite or muscular sugar contained in the urine. Professor Bouchard and Professor Potain, of Paris, have recently reported each a similar case.

Springs Nos. 1 and 2 hold in solution the same mineral constituents, and it is doubtless the change in their composite quantities that makes the difference in indication for their exhibition. These waters we have found equally active and efficacious in our hospital and private practice remote from the springs; the only advantages derived from drinking them *in loco* are those of change of air, scenery, and cooking, which, although valuable adjuncts are by no means essential. Of course, it must be understood that a proper diet was prescribed, and must be in every individual case while using the waters; this certainly aids their curative action, and although they are not a panacea they are at least a specific in a very large category of diseases.

Finally, were I called upon to state what mineral waters were applicable to the greatest variety of cases

in which lithia, potash, and soda are especially indicated, and what mineral waters prescribed by themselves alone, leaving medicines and diet entirely out of the question, will effect the most speedy, radical, and permanent cure in such, I should unhesitatingly answer, "The Buffalo lithia waters of Virginia." I consider the salts of lithium, as held in natural solution in these waters, far more efficacious than any pharmaceutical preparations of those salts.

PARIS.

## Therapeutical Notes.

### Inunctions of Leaf Lard in Cases of Emaciation.—

In the July number of the *American Journal of Insanity* Dr. George Boody, of the Iowa State Hospital, reports the results of experiments made by himself with leaf-lard-inunctions in cases of malnutrition with emaciation. The time over which they extended, he says, was very short and the number of cases few, but they were carefully carried out and the improvement in each case was noted. Four cases were selected, of each of which a brief account is given, with the following conclusions:

1. It clinically demonstrates that the integument plays an important rôle as an organ through which food may be taken, carried to the circulation, assimilated, nutrition improved, and wasted tissue repaired.

2. Its use is indicated in every case of extreme emaciation with malnutrition, where diet and tonic treatment with massage fails to produce the expected results.

3. It is the author's belief that if the conditions were such that food could not be taken through the stomach, nutrition could be improved and the patient made to gain in weight by inunctions of leaf lard, olive oil, or other fats, twice or three times a day.

**Iodide of Starch in Surgery.**—Majewski (*Wiener med. Presse*, 1896, No. 19; *Centralblatt für Chirurgie*, August 1, 1896) recommends iodide of starch as an excellent application in suppurating and neglected wounds, plegmons, panaritias, and venereal sores. A mixture of one part of tincture of iodine and two parts of starch, he says, exceeds iodoform in antiseptic action and in controlling suppuration. It is especially hygroscopic, almost odorless, and very agreeable.

**Male Fern in the Treatment of Tapeworm.**—In the *Revue internationale de médecine et de chirurgie* for August 10th, Dr. W. Morain attributes the following formula to Créquy:

℞ Ethereal extract of male fern. 2 drachms;  
Calomel..... 12 grains.

M. Make 16 capsules. S.: One to be taken every five minutes, fasting, until all have been swallowed. It is well, remarks Morain, to take about an ounce of castor oil in an hour after taking the last capsule. The patient should defecate into a vessel filled with water, in order to guard against the worm's breaking.

In the case of a child, the capsules can not be used, but the following preparation, attributed to Duchesne, may be employed:

℞ Ethereal oil of male fern..... 1 drachm;  
Calomel..... 6 grains;  
Water, } of each..... ½ oz.;  
Powdered sugar, }  
Gelatin..... a sufficient quantity.

M. S.: To be taken in two or three doses.

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### THE SERUM TREATMENT OF LEPROSY.

In the *Journal* for January 18th we mentioned a communication that had been made to the National Academy of Medicine of Bogotá by Dr. Juan De Dios Carrasquilla in which he reported cases of leprosy that had been cured or much ameliorated by the use of an antileprous serum prepared by him. It was his second paper on the subject, and was presented before the academy on the 22d of last November; the first had been laid before the same learned body on the 30th of August, 1895. By the courtesy of the academy's permanent secretary, Dr. Pablo García Medina, we have now received a copy of Dr. Carrasquilla's third communication, made on the 24th of June, 1896. In it the author describes in detail his method of obtaining the antileprous serum and his mode of employing it. These we can indicate only in outline. He first bleeds a leper, choosing an adult whose general condition is fairly good. The blood drawn varies in amount from a hundred to two hundred and fifty cubic centimetres. It is received into a sterilized vessel and carefully covered, kept away from the light, and, above all, kept perfectly quiet. In from twelve to twenty-four hours the superficial layer of serum, that only which is perfectly limpid, is removed with a pipette. If it has to be kept for some time before it is to be used, it is passed through a layer of powdered camphor contained between two layers of cotton, to preserve it, and it is kept away from light and heat.

Thus prepared, the serum is injected into an animal that is refractory to leprosy, preferably a healthy young horse in good condition. Roux's method of procedure is employed. In regard to this operation, says Dr. Carrasquilla, there are two points that are of the greatest importance and at the same time difficult to determine—the amount of serum to be injected at one time and the interval that should be allowed to elapse between the injections. His experience leads him to think that forty-five cubic centimetres is the proper medium dose, given at intervals of ten days. The horse is bled in from five to ten days after the last injection, preferably from the jugular vein. The Nocard-Roux process is followed for obtaining aseptic horse serum,

and it is treated in exactly the same way as the human serum.

The dose of the serum for use on the human subject is from one to five cubic centimetres, according to the strength of the serum, the constitution, age, and other circumstances of the patient, the period of the disease, etc., given subcutaneously. The locality to be preferred for the injection is that bounded by the iliac crest and a transverse line passing just beneath the trochanteric fossa, or, better still, just to the outer side of the trochanter major. Great care must be taken to make sure that the serum has not undergone any septic change. A full day should intervene between the injections. Febrile reaction follows in all cases, and the injection should not be repeated until this has subsided. Dr. Carrasquilla gives many other details, which we have not space to mention, and promises to publish further reports of results.

#### THE QUESTION OF THE COMMITMENT OF THE INSANE.

At the recent meeting of the Congress of Alienists and Neurologists of France, a report of which appears in the *Presse médicale* for August 1st, M. Garnier read a paper on this subject in which he enumerated the conditions requiring the confinement of the insane as follows: The two forms, elementary, or primary, mania and melancholia are the first which demand early confinement, especially in acute cases, in which the patients are sometimes very demonstrative. In these cases the family should be informed, and the possibility of a rapid improvement mentioned if the patient is sent to an asylum.

Melancholia, in its most masked forms, is perhaps the mental disease for which the expediency of confinement is most uncertain; it requires much tact and experience. According to the opinion of the majority of clinicians, lypemania of slight intensity may be cured without confinement in an asylum.

General paralysis is distinguished rather by dementia than by delirium; that is to say, rather by the annihilation of the mental activity than by its deviation; it is not rare, either, to meet with general paralysis in which there is no delirium. It is possible that such patients may be cared for outside of an insane asylum; however, during the early period of the disease there may be a true maniacal excitation which leads to acts of violence and demands the patient's confinement in an asylum.

Senile dementia and mental weakness due to limited cerebral lesions are a cause of much embarrassment.

There is nothing, it may almost be said, to be done for this class of patients. There should be in large cities an establishment somewhat like a hospital in which patients of this class may be placed immediately, an institution which does not come under the regulations that apply to the insane.

Persons with delusions of persecution, whether they belong to the distinctly defined or limited type of chronic delirium or progressive systematic psychosis; whether they betray, by the nature and the method of evolution of their delirious conceptions, hereditary degeneration, are those for whom confinement is particularly urgent.

There are persons who ask to be confined in an asylum, and they are generally those in whom the disease is hereditary or degenerates tormented with a fixed idea urging them to suicide or homicide, and very frequently it is advisable to comply with such demands.

A rather complex question is that concerning the assistance and the confinement of epileptics. Strictly speaking, the latter applies only to insane epileptics, while the former is due to poor patients who are suffering with simple epilepsy only.

Hysteria, with its varied aspects, its protean course, its exceedingly sudden changes, and its exacerbations, gives rise to the greatest difficulties in regard to the expediency of confinement. One fact is certainly recognized, and that is that there is no greater obstacle to recovery in this disease than living at home. If hysteria is accompanied by mental troubles that may be included in the term hysterical mania, if there are cerebral disorders and hallucinations, in which condition the suicidal and even homicidal impulse is not rare, confinement is indicated. However, this sensorial delirium is very often connected with a convulsive paroxysm, and in such cases it is advisable not to be too hasty. This paroxysmal mania is generally of short duration, and at the end of two or three days the storm becomes calmed. As regards hysterical persons whose entire existence is passed on the border line of insanity, who are neither sane nor yet insane, very frequently it is expedient to refuse them a commitment.

The increasing number of degenerates, of feeble-minded, of imbeciles, and of idiots have become a source of embarrassment and great annoyance. They are confined not only for their feeble-mindedness, but especially when a maniacal attack occurs, when there are epileptic attacks, sensorial troubles, etc. When these symptoms have disappeared, the patients leave only to return again after a comparatively short time.

Analogous remarks may be made in regard to alcoholic subjects. Alcoholic delirium is the most frequent



form of mania. A person suffering from acute alcoholism presents the most dangerous form of insanity from the first appearance of the sensorial troubles, and confinement in such cases is advised. But it is of short duration, for the symptoms disappear rapidly at the end of a few weeks.

It may be seen that the term dangerous as applied to different classes of insane persons is not sufficient to determine exactly which patients should be confined to the exclusion of others, although, on the one hand, it can not be affirmed that an insane person reputed to be inoffensive may not become dangerous at any moment, and, on the other hand, it is a duty for the hospitals to render assistance to the poor insane who need special care.

### MINOR PARAGRAPHS.

#### THE NEW YORK STATE QUARANTINE SERVICE.

THE State of New York, and consequently the people of the whole country, are fortunate in having so alert a man as Dr. Doty for health officer of the port of New York. The recent exhibition of improved appliances for the sanitation of infected ships and Dr. Doty's efforts to secure co-operative work in Havana, comparatively fruitless as they are understood to have proved for the present, sufficiently attest the activity of the office.

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 18, 1896 :

DISEASES.	Week ending Aug. 11		Week ending Aug. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	29	10	56	11
Scarlet fever.....	42	3	11	2
Cerebro-spinal meningitis....	1	1	0	0
Measles.....	77	6	47	6
Diphtheria.....	138	36	97	15
Tuberculosis.....	177	84	103	122

**The Mississippi Valley Medical Association.**—Arrangements have been made with the railroads for reduced rates from New York to St. Paul and return, the rate being fixed at one fare and a third, which will make the cost of the trip, by the New York Central, or the Pennsylvania Railroad, \$42, by the West Shore Railroad, \$38, and by the Erie Railroad, \$39. Tickets should be purchased *via* the Chicago, Milwaukee, and St. Paul Railroad, that being the route selected by a party of the members which will meet in Chicago on September 14th.

**A Good Showing for the Barnes Medical College.**—By some flaw or omission in the return of preliminary qualification of the Barnes Medical College, of St. Louis, to the Missouri State Board of Health, the unprecedented number of a hundred and one matriculates were notified to appear before the board to show cause why they should not be debarred from matriculation, all of whom, responding to the summons, after a rigid personal examination and searching scrutiny of their credentials, were found by the board to be fully qualified by first-grade teacher's certificate or academic or high-school degree, many of them showing ex-

ceptionally high qualifications. This is exceedingly gratifying to the friends of higher preliminary qualifications and to the many friends of the college, and shows that this well-known school at least is not disposed to "let down the bars" to mediocrity for the sake of getting students, as was unjustly intimated and published at the time in this and other journals. We cheerfully record this commendatory statement of fact and wish the Barnes Medical College the continued success it justly merits.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 9 to August 15, 1896 :*

EWEN, CLARENCE, Major and Surgeon. The extension of leave of absence granted on account of disability is further extended one month on account of disability.

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon. So much of Special Order 69, A. G. O., March 23, 1896, as directs him to report to the president of the examining board, appointed to meet at San Francisco, Cal., April 14, 1896, for examination by the board, is revoked.

SHAW, HENRY A., First Lieutenant and Assistant Surgeon, will proceed to Fort Brady, Michigan, without delay, and report for temporary duty at that post.

WOODHULL, ALFRED A., Lieutenant Colonel and Deputy Surgeon General, and SMART, CHARLES, Major and Surgeon, are detailed to represent the Medical Department of the Army at the twenty-fourth annual meeting of the American Public Health Association, to be held at Buffalo, N. Y., September 15, 1896.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 15, 1896 :*

JOHNSON, M. K., Assistant Surgeon. Detached from the U. S. Steamer New York and ordered to the Coast Survey Steamer Bache.

LUNG, G. A., Passed Assistant Surgeon. Ordered to the Receiving-ship Vermont.

STITT, E. R., Passed Assistant Surgeon. Detached from the Receiving-ship Vermont and ordered home on waiting orders.

### Births, Marriages, and Deaths.

#### Died.

CHAFFEE.—In Springfield, Massachusetts, on Saturday, August 8th, Dr. Calvin C. Chaffee, aged eighty-five years.

SHRADER.—In Columbia, Missouri, on Thursday, August 13th, Dr. William Shrader.

WORTHINGTON.—In Louisville, Kentucky, on Tuesday, August 11th, Dr. James Cheston Worthington, of the United States Army.

### Proceedings of Societies.

#### SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

*Meeting of May 6, 1896.*

The President, Dr. PARKER SYMS, in the Chair.

**Traumatic Rupture of the Spleen; Operation; Recovery.**—Dr. SAMUEL PIERSON, of Stamford (through Dr. J. Blair Gibbs) presented a report of such a case.

The patient, a boy of ten years, had been seen in con-

sultation with Dr. Treadway on the morning of January 16, 1896. While coasting on the previous evening, the boy had been thrown from his sled against a post and had struck upon his head and shoulder, and had then fallen on his side. When seen by his physician a few minutes later, he had been pulseless, but conscious, and had located his worst pain under the left axilla in a line with the nipple. After careful examination no evidence of fracture of the ribs or of any other injury could be discovered. During the night the boy had vomited almost constantly. When first seen by Dr. Pierson in the morning he had been lying with his knees drawn up, the face pinched, the abdomen very much distended and exquisitely tender. Pulse, 145; temperature, 103.5°; respiration, 40. It was apparent that the boy had sustained some serious abdominal injury, and his removal to the hospital for possible operation had been advised. On arrival there he had been given an enema of warm water which had relieved the distention and tenderness to a considerable degree. Temperature, 102.5°; pulse, 130; respiration, 30. Had the boy been seen for the first time in this condition he would probably not have been operated upon, but having fortunately been under observation from the first, there could be no doubt that he had sustained a serious injury. At six o'clock, twenty hours after the injury had been received, an operation had been done, with the assistance of Dr. Parker Syms, of New York (to whose valuable advice the success of the operation was largely due), Dr. L. R. Hurlbutt, Dr. A. M. Hurlbutt, Dr. Sherrill, and Dr. Gibbs. A small incision had been made in the median line below the umbilicus. When the peritonæum had been reached, liquid blood had been plainly seen underneath, and on cutting through the membrane the blood had gushed forth in large quantity. The opening had been enlarged, and the cavity deluged with a saline solution. Besides the liquid blood a large quantity of clots had been washed out from among the coils of intestines, which had been carefully searched for rupture. As no rupture had been found, and as the fresh blood had seemed to come from the upper part of the abdomen, the incision had been enlarged upward almost to the ensiform cartilage. The liver had been first examined carefully, with a negative result. More clots and liquid blood had been found covering the intestines on the left side under the border of the ribs. After these had been washed away, the ribs had been held up by an assistant, and on depressing the intestines, the bleeding point had been plainly seen in a transverse laceration of the hilum of the spleen. Fresh blood had been oozing from the rent. As it had been impossible, owing to the depth of the cavity and the nature of the tissue, to ligate the bleeding point, a long piece of iodoform gauze had been packed tightly in the rent, and brought out of the upper end of the abdominal wound. The abdominal cavity had been filled with saline solution and the wound closed with silkworm-gut sutures. Profound shock had followed the operation, and three high saline enemata had been given during the night with very happy results. At midnight the pulse had been 148, temperature 102.5°, respiration 26. Oozing had been free during the night, but the general condition had improved steadily. On January 17th, A. M. temperature, 102°; pulse, 130; respiration, 28; P. M. temperature, 101°; pulse, 120. He had passed a fair day, and had retained some milk and limewater. The bowels had been moved freely by calomel on the 18th. For the next three days the temperature had ranged from 101° to 103°, and the pulse from 96 to 120.

On January 21st, five days after the operation, the wound had been dressed under chloroform. The gauze had been removed with some difficulty, and replaced with a much smaller packing. There had been no hæmorrhage. Notwithstanding the absence of suppuration at the first dressing, for the next four days the temperature and pulse had still ranged high. On January 25th several stitch abscesses had been opened, and the cause of the disturbance was thought to have been reached. The next day the temperature had been higher than ever, and a careful examination of the chest had shown fluid in the lower part, and a beginning broncho-pneumonia in the middle lobe of the left lung. The discharge from the wound had nearly ceased and, except for the stitch abscesses, the wound had been entirely healed. For the next five days the temperature had ranged from 100° to 104.5°; pulse from 100 to 130; respiration from 28 to 45. The pneumonia had then begun to resolve, but the fluid had increased, and there had been great tenderness and a fullness over the seat of the laceration in the spleen. The wound had been discharging a moderate amount of serous fluid daily. Fearing that the fluid in the chest might have become purulent, on February 2d an aspirating needle had been inserted and a drachm of pure blood withdrawn. This would, of course, not account for the temperature, and a purulent collection at the seat of the original injury had been feared. At three o'clock of the same day about a pint of thin, chocolate-colored, absolutely non-odorous fluid had been discharged from the original opening. The temperature had immediately dropped to normal, where it had remained until February 13th, when it had again reached 100° without any apparent cause. From this time convalescence had been uneventful, by March 1st the fluid in the chest had been entirely absorbed, and, with the exception of a small sinus, the boy had been entirely well.

So far as he had been able to find, there was no recorded history of such an injury to the spleen, treated by packing only for the stoppage of hæmorrhage. In this case the child's condition had been so bad that no time could be taken in attempts at suturing the rent or in removing the organ. The hæmothorax had evidently been due to the original injury. That the injury would have been fatal without operation, even had the bleeding ceased, seemed hardly open to question, owing to the very large quantity of blood and clots in the abdominal cavity.

Dr. ROBERT T. MORRIS said that, assuming that the patient's bad condition had been due to loss of blood, it would seem to him that the case might have been easily and successfully treated by first giving a large intravenous saline infusion, and then extirpating the spleen, but one must know particulars of any given case.

Dr. J. BLAIR GIBBS said that when the case had been first seen, the patient's condition had been very serious, and the symptoms only those of grave shock. On making an exploratory incision the whole abdominal cavity had been found filled with clots and bloody serum. The removal of this large quantity of blood clot had necessarily consumed considerable time, and when this had been accomplished, the boy's condition had been extremely bad. The spleen had been found to be covered with very adherent blood clots, and with a very well-defined laceration on its anterior border. The hæmorrhage had been quickly stopped by packing with iodoform gauze, and therefore it had been assumed that this simple measure would give the patient the best possible



chance for his life. The spleen might have been removed, of course, but it would have in all probability greatly increased the risk of the operation.

Dr. J. F. ERDMANN said that in this connection he desired to exhibit a spleen in which there was a gunshot wound. He had intended to remove the spleen in this case, but finding the man's condition very bad owing to five perforations of the ileum and jejunum and one of the omentum, he had finally decided to simply pack the wound with gauze. This had been done, and with the very best results, but six days after the operation the man had died from acute uræmia.

Dr. E. LE FEVRE asked if the fluid in the pleural cavity was thought to have been due to the original injury.

The PRESIDENT said that he had only seen the patient once after the operation, the next day, and that then there had been no indication of such a condition. His own impression was that the fluid had been retained blood, of the nature of a subphrenic abscess. He would doubt very much the wisdom of treating most cases of hæmorrhage from the spleen by this method, although it was undoubtedly a very proper procedure in this particular instance. In most cases of rupture of the spleen there was some penetrating wound of the abdomen, or else the spleen had been previously diseased—e. g., from malarial infection. In one case which he recalled there had been a similar rent in such a diseased spleen. The spleen had been sutured, but the patient had died of concealed hæmorrhage, due to a rent which had been overlooked in another portion of the organ. As a rule, the spleen ruptured on the posterior surface from the doubling up of the organ.

**A Roentgen Picture of a Bullet in a Hand.**—The PRESIDENT presented a picture of this kind, taken from a young man who had received a wound in the palm of the hand from a .22-calibre pistol. The speaker said that he had seen the case first on the tenth day after the injury. The wound had been previously probed and an incision made along the fifth metacarpal bone on the supposition that the bullet was there. The Roentgen picture had located the bullet, yet even when the incision had been made between the metacarpal bones it had been impossible to feel the bullet with the finger pressed deeply into the wound. He certainly would not have continued the operation to the point of the removal of the bullet if the picture had not made it entirely certain that the bullet was there.

Dr. ROBERT T. MORRIS presented a Roentgen picture from a similar case. A number of shot had been discharged into the hand, and these had been located with the help of Professor Pupin, by means of an X-ray photograph. Without this aid it would have been absolutely impossible to locate the most important of these shot—namely, those which involved the joints. He was now engaged in removing the shot from the joints. Incidentally, the speaker said he desired to say that he thought the best word for the X-ray photograph was "scotograph." He did not believe in "mule words"—half English and half Greek. The word "scotograph" was of pure blood, and of good descriptive character.

Dr. GIBBS said that he had witnessed the operation in the case described by Dr. Syms, and had been much impressed with the clearness and exactitude with which the bullet had been located. Of course the cellular planes in the hand did not show in the picture, and one might dissect to one side of the bullet.

**Removal of Infected Ligatures.**—Dr. C. C. BARROWS reported the following case: A woman, thirty years of age, had been operated upon by another surgeon eighteen months before, and the appendages had been removed. Since this operation there had been an open sinus at the lower angle of the wound. On April 23d he had carefully dissected out the sinus, and had found a heavy silk ligature at the bottom of it. The sinus had been surrounded by adherent intestine and omentum. The ligature on the opposite side had been entirely absorbed. The specimen was of interest as illustrating how dense and thick the wall of such sinuses might become after a time.

Dr. A. BROTHERS presented two ligatures which had been placed in the peritoneal cavity last January during a double salpingo-oophorectomy. The operation had been done *per vaginam*, and the pedicle had been tied with silk. The patient had been discharged in less than three weeks, cured, with the exception of a small vaginal sinus. On April 4th, nine weeks after the operation, she had returned complaining of vague pelvic discomfort, and on examination one of the ligatures had been felt protruding, and had been removed. The wound had failed to heal, and to-day he had removed a second ligature. The advantages of the vaginal method were well shown in this case, because in the event of the ligatures becoming infected a natural outlet was provided. Some years ago he had seen a similar case, in which a distinguished gynæcologist of New York had operated. The sinus had remained open for nearly six months, and had only healed after the spontaneous discharge of an infected ligature.

**A Needle in the Omentum.**—Dr. J. F. ERDMANN exhibited a piece of omentum in which was imbedded a darning needle. It had been found in a dissecting-room subject apparently about fifty-three years of age. There were no adhesions except those bands which had held the needle in place in the omentum.

**Foreign Body in the Œsophagus.**—Dr. A. BROTHERS said that a few evenings before a man had come into his office suffering extreme distress. He had stated that while he was eating, something had become lodged in the gullet. An olive-shaped bougie had apparently passed into the stomach with but little resistance, but on a second attempt a large piece of gristle had been dislodged, and had been discharged after withdrawing the bougie. If this body had happened to become fixed higher up, it might have caused death by pressure on the larynx.

**Treatment of Chronic Disease of the Ankle and Tar-sus.**—Dr. W. R. TOWNSEND read a paper with this title (see page 256), and presented the following case in illustration: The patient, a boy of three years, had been brought to the Hospital for the Ruptured and Crippled with chronic ankle-joint disease, and the Thomas brace described in the paper had been applied. The speaker said that the change of contour, the prominence of the veins, the atrophy of the limb, and the limitation of motion at the tibio-tarsal articulation had been sufficient to stamp the case as one of chronic ankle-joint disease.

Dr. LE FEVRE asked if some lighter metal could be used for the brace, such as aluminum.

Dr. TOWNSEND replied that he had tried aluminum, but so far it had not been successful, probably owing to lack of experience with the working of it by the instrument makers. With a suspender over the shoulder the patient never experienced any discomfort from the weight of the brace. Of course the uprights could be made of hollow tubing.



*Meeting of June 3, 1896.*

The President, Dr. PARKER SYMS, in the Chair.

**Hydrosalpinx and Ovarian Cyst removed Per Vaginum without Removal of the Uterus.**—Dr. C. C. BARROWS presented two specimens of this kind. He said that of course it was easy enough to remove these if the uterus was also extirpated, but otherwise it was sometimes rather difficult of execution. He had not taken out the uterus because the other tube and ovary had been brought down and examined, and found in such good condition that extirpation did not seem to be warranted. Both women had recovered rapidly and completely.

**Hysterectomy, with Special Reference to the Technics by the Vaginal Route.**—Dr. FREDERICK HOLME WIGGÉN read a paper with this title (see page 258), and also reported a successful case of intestinal anastomosis by the Maunsell method.

Dr. G. W. JARMAN said regarding Mackenrodt's incision that it did not seem to him that the linear incision would ever become very popular for the removal of the uterus. In certain cases there was so little connective tissue between the vagina and bladder that it was almost impossible to make the incision without injuring the bladder. What seemed to him much better was the incision described recently by Sagond—a perfectly circular incision around the cervix, and then one on either side up to the fornices. This gave a great deal of room. He had only made the Mackenrodt linear incision once, but he did not feel disposed to repeat it. He was of the opinion that in extirpation of the uterus for non-malignant disease better conservative surgery could be done through the abdomen than through the vagina. There were certain cases where it was almost impossible to remove an adherent tube and ovary through the vagina. When operating from above, it was comparatively easy to examine the parts, and if they were injured in so doing they could be at once removed. In cases of malignant disease he favored the vaginal method in order to avoid the exposure of the peritoneal cavity. He did not think any part of vaginal hysterectomy would render so much care necessary on the part of the surgeon as the combined operation, for after working in the vagina the hands were almost certain to infect the patient. If after vaginal work one were forced to enter the abdomen, one must make special preparation before making the abdominal incision. The closing of the cervix by ligature or suture seemed to him entirely unnecessary. It consumed considerable time, and the same object could be much more easily and quickly accomplished by grasping the uterus with a double volsella forceps. Personally, he had not found any advantage from closing the vagina after vaginal hysterectomy. This also introduced an element of time without a corresponding gain. Of course, if one was not sure of the perfection of one's aseptic technics, it would be better not to do it. It was advisable to introduce a broad handkerchief of gauze into the vagina, and then to fill this in with small pieces of gauze—the ordinary Mikulicz drain. An exudation of plastic lymph very soon formed over the gauze and shut off the peritoneal cavity. He agreed with the reader of the paper that where ligatures could be used they were desirable, but there were cases in which they could not be used, as, for example, where the tissues were quite friable. In one instance, some years ago, he had carefully removed the clamps at the end of fifty hours, and had been surprised at the occurrence of a very profuse hemorrhage, which could only be controlled by abdomi-

nal section and the application of a ligature to the bleeding vessel. In view of this experience, he would advise against removing the clamps for at least sixty hours. He was convinced that he had seen one patient die from the giving of douches too soon after a vaginal hysterectomy. Where gauze had been put into the vagina, the adhesions would be slight, and one would be apt to break up these adhesions by the premature use of a douche. There was certain to be septic material after a vaginal hysterectomy, and such a douche was almost sure to force in some of this septic material. He would much prefer swabbing out the vagina with cotton moistened with some antiseptic solution. He was convinced that recovery was more satisfactory if the gauze was allowed to remain undisturbed in the vagina for from five to seven days. Removal of the gauze from the vagina was usually painful, but if it was gradually taken out it could be done with little or no discomfort to the patient. Regarding abdominal hysterectomy, he would say that he did not believe that the cervix added anything to the strength of the pelvic floor. Two cases of carcinoma of the cervix had been reported after abdominal hysterectomy for other purposes, the cervix having been left behind. This was, of course, a remote possibility, but still should be borne in mind. The most important objection to leaving in the cervix was the defective drainage thereby produced.

The speaker then referred to a patient with hemorrhagic endometritis who had been previously curetted twice by a competent physician before he had seen her. The woman had been almost exsanguinated, but at the suggestion of her physician he had also tried the curette. The products of the curetting had been examined and no malignant growth reported. The hemorrhage had recurred after the curetting. He had then removed the uterus, and referred it to the pathologist of the hospital, and had also submitted portions to two other pathologists for examination. All the pathologists had reported that there was nothing abnormal except a very small mural fibroid. Fourteen months later the woman had returned with a carcinoma. He had seen her within a few days, and the pelvis had been filled with carcinomatous tissue. This case had discouraged him greatly from doing a vaginal hysterectomy for cancer, for in every way it had seemed to be a hopeful one for operation. He felt that some patients with hemorrhagic endometritis would bleed in spite of curettage, and that these required hysterectomy.

Dr. BARROWS said that he had been particularly interested in the technics, as described in the paper of the evening. His views were very similar to those expressed by the last speaker. He had had an opportunity to see a good deal of the technics of Dr. Segond, and had been charmed with his manner of operating. Not only had he been impressed with the incisions already described, but with his division of the uterus through the median line. Segond first curetted the uterus and cervix very thoroughly with a sharp curette, and washed out the parts with sterilized water. He next divided the uterus on its posterior face up to the fundus, having first placed clamps on the uterine arteries on either side. Having reached the fundus, he slipped his finger down behind the uterus and incised the posterior wall on his finger. The uterus was then in two halves. Attached to each half was one broad ligament and an appendage. This could be used as a handle to aid him in enucleating the appendages, and it gave him complete control of the broad ligaments. It was well known that in the old

method of operating there was sometimes much difficulty experienced in controlling the bleeding from adhesions high up, for fear of displacing the clamps and ligatures. Of course, it was very necessary to make the uterus as nearly sterile as possible before beginning this operation. He was also in accord with Dr. Jarman regarding conservative work, believing that the abdominal route was the correct one for such work. In the cases reported this evening with specimens, the operation had not been intended originally for conservative work, but the cases had proved to be of this class. Regarding the question of operation upon malignant disease, he thought it was best to operate from above by Dr. Polk's recent method. The uterus and vagina having been packed with iodoform gauze, the abdomen should be opened, the ovarian vessels and round ligament ligated, and then the folds of the broad ligament opened and followed out to the pelvic wall. The anterior branch of the internal iliac artery should then be picked up and ligated. This could be very easily accomplished, especially in cases in which the uterus was not very large. The method was particularly adapted to carcinoma. This method gave a practically bloodless field. The operator could thus remove enlarged glands or suspicious tissue as easily as from the axilla in a case of amputation of the breast. Probably half or more of the vagina could be dissected out, if necessary, before any bleeding would be met with. He believed this would be found a very great improvement over the usual method of operating for carcinoma. He had done a good many vaginal operations for carcinoma, and as a rule they had not been very satisfactory as regarded recurrence. He would in the future adopt the method just described.

Dr. BARROWS said he could see no reason for leaving any part of the cervix in cases of disease of annexa or of fibroids. It was certainly a menace to the woman, and there was no advantage in it. He had operated in one case because of the annoying discharge which had issued from this cervix, and had caused much discomfort. The question of clamps or ligatures depended upon the individual preference of the operator and the peculiarities of each case. Personally, he preferred clamps.

Dr. HENRY C. COE said that he thought those who had seen Segond operate would admit that he gained a great deal of room by the use of the circular, combined with the vertical incisions. With reference to the recurrence of carcinoma after vaginal hysterectomy, he would say that he had become a pessimist regarding all so-called radical operations for malignant disease of the uterus. The operation was hardly comparable to the radical operation for disease of the breast, because the conditions were very different. The bloodlessness of the operation referred to by Dr. Barrows was, of course, a great advantage, but the possibility of removing all the affected tissues seemed to him very problematical. The operation appeared to be a severe one, which one would hesitate to attempt in private practice. Regarding clamps and ligatures, he said that he had used clamps in a large number of cases. They had been tried quite extensively in the Cancer Hospital as far back as 1886, but the results had been so bad that they had been abandoned until recently. The great objection to the clamp operation was the extensive sloughing process. He had been surprised that we had not lost more patients from this cause; certainly it could hardly fail to impress one as an unsurgical method.

Any one who had seen Dr. Kelly operate must have

been impressed with his wonderful dexterity. He had seen him remove an ordinary fibroid tumor in five minutes, though he occupied twenty minutes or more in suturing the stump and closing the abdominal wound. After all, then, there was not much gain in time by his operation. He could see no advantage from the retention of the cervix. He had never met with a vaginal hernia after complete extirpation, and Segond had stated that he had never seen the condition in a series of six hundred cases. Certainly the cervix might give trouble afterward; he had known it in a few instances to undergo carcinomatous degeneration.

Dr. W. EVELYN PORTER said regarding the indications for hysterectomy that it seemed to him that the operation was performed very frequently where the simpler method of enucleation of fibroid growths would be more apt to result favorably for the patient. As to doing the operation for hæmorrhagic endometritis, he said that occasionally one met with cases in which every means failed, including ligation of the uterine vessels and removal of the appendages. He would favor a trial of other surgical means, however, before resorting to hysterectomy, even in these severe cases. As to the technique of the abdominal operation, he always preferred to remove the entire uterus, but in some cases where the stump was large, and there was difficulty in bringing it up into the wound, it might be wise to leave the cervix. The vertical incision would undoubtedly furnish much aid in operating through the vagina, for it gave a better view of the vessels. He believed that clamps should only be used where ligatures could not be applied. After vaginal operations he preferred to close up a considerable part of the vaginal roof, instead of leaving it open and packing it. It was his habit to unite the surfaces posteriorly to avoid the bleeding from the vaginal artery. He only left a small opening in the roof for the purpose of drainage. This seemed to him an important part of the technique.

Dr. WIGGIN said regarding the separation of the bladder from the uterus, that he had never found any difficulty in doing it, although he had performed it quite a number of times. The passing of a sound into the bladder enabled one to estimate the thickness of the wall, and if the transverse incision was made with the edge of the knife toward the cervix, there was no danger of wounding the bladder, or difficulty in stripping it off from the uterus with the fingers. He had found the Mackenrodt incision so useful in the operation for retrodisplacements that he had applied it to hysterectomy, as had also Dr. Vineberg. The great point was the dissection of the flaps laterally. If this was properly done, a large field was exposed for operation, and there was very little difficulty in securing the arteries and ligaments. He understood that the leaving of the stump in Kelly's method was done chiefly with the idea of shortening the time of operation. In cases in which there was no malignant disease, it certainly seemed to be a very rapid method.

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## Miscellany.

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**The American Association for the Advancement of Science.**—The forty-fifth annual meeting will be held in Buffalo on August 24th, 25th, 26th, 27th, 28th, and 29th. The preliminary programme includes the follow-



ing titles: The Determination of Osmotic Pressure from Vapor Pressure Measurements, by Dr. A. A. Noyes and Dr. G. C. Abbott, of Boston; Distillation with Vapor, by Professor W. D. Bancroft, of Ithaca; A Physico-chemical Study of Water Solutions of Some of the Alums, by Dr. H. C. Jones, of Baltimore; The Hydrolysis of Ferric Chloride, by Professor H. M. Goodwin, of Boston; The Viscosity of Mercury Vapor, by Dr. A. A. Noyes and Professor H. M. Goodwin, of Boston; Some Points in Nomenclature with Regard to Analysis of Mineral Water, by Professor F. W. Clarke, of Washington, D. C.; The Alkali Trihalides, by Professor C. H. Herty and Professor H. V. Bloch, of Augusta, Ga.; The Action of Copper upon Sulphuric Acid, by Professor Charles Baskerville, of Raleigh, N. C.; A Bibliography of the Metals of the Platinum Group, by Dr. James L. Howe, of Lexington, Va.; A Review of the Atomic Weight of Magnesium, by Professor J. W. Richards and Professor H. G. Parker, of Cambridge, Mass.; Organic Chemistry, by Professor Paul C. Freer, of Ann Arbor, Mich.; The Hydrazones of Quinones, by Professor William McPherson, of Cincinnati; Camphoric Acid, by Professor W. A. Noyes, of Terre Haute, Ind.; Some Points in Teaching Technical Chemistry, by Professor J. H. Norton, of Cincinnati; The Aim of Qualitative Analysis, by Dr. G. C. Caldwell, of Ithaca, N. Y.; How Far shall we Use the Periodic Law in Teaching General Chemistry? by Dr. F. P. Venable, of Chapel Hill, North Carolina; Chemistry at the Rensselaer Polytechnic Institute, by Professor W. P. Mason, of New York; The Limits of Accuracy in Analytical Work, by Professor E. D. Campbell, of Ann Arbor, Mich.; Technical Chemistry, by Mr. William McMurtrie, of New York; Recent Developments in the Purification and Filtration of Water, by Professor A. R. Leeds, of Hoboken, N. J.; The Value and Use of Formaldehyde as a Disinfectant, by Dr. E. A. de Schweinitz, of Washington, D. C.; Should the Practice of Embalming the Dead be Restricted by Law, by Professor L. W. Andrews, of Iowa City, Iowa; The Work of the Agricultural Chemists of America, by Dr. L. L. Van Slyke, of Geneva, N. Y.

**The Influence of Deafness upon the Development of the Child.**—The August number of the *Laryngoscope* contains an article by Dr. H. A. Alderton, of Brooklyn, who remarks that impairment of the hearing must influence disadvantageously the development of the child primarily in two ways: First, by curtailment of the field of observation; second, by limitation of the possibility of instruction, and these limitations reacting upon each other both adversely influence the child. The first impression given by a deaf child is one of inattention. It is regarded as being somewhat dull and absent-minded, and imperceptibly people get into the habit of speaking sharply in order to attract the child's attention. It is often reproved for not paying attention to what is said to it or for not doing things it has been told to do. The child gradually begins to appreciate the feelings it inspires, and this tends still further to limit its receptivity by rendering it sensitive and fearful of ridicule and harshness. The too frequent use of the latter, says Dr. Alderton, breeds a carelessness of reproof and of desire on the part of the child, who too often feels itself the victim of thoughtless injustice. At school the child becomes inattentive, loses instruction, and does not progress. It falls behind in its studies and appears to be dull and slow, and the teacher's efforts to instruct become more and more perfunctory and valueless. The child loses

interest and is, as a natural consequence, led to spend its mental and physical energies in ways that are forbidden. At play it is the same thing, and the child gradually loses interest and follows pursuits which do not require the co-operation of others. As it lacks thus the incentive to exercise which comes from companionship and the attendant competition and collaboration, malassimilation and malnutrition increasingly make inroads upon the system in general.

Unfortunately, says Dr. Alderton, by the time that parents are willing to admit that it is deafness and not dullness that is the trouble, they have got into the habit of regarding the child as stupid, inattentive, and insubordinate. The case progresses so gradually that the damage is done before they are aware of it, and regrets and recriminations are useless.

The effect of these various influences upon the development of the child, says Dr. Alderton, is unfortunate in the extreme. The mind, deprived of its customary cultivation, ceases to expand in proportion to the growth of the individual; the child is backward. The disposition, constantly disturbed by contempt, ridicule, harshness, or overconsideration, becomes uncertain and unreliable, sensitive, and uncontrollable. The bodily health, by want of fresh air and exercise, mental worry, and disturbance, becomes impaired; the osseous, muscular, vascular, respiratory, and nervous systems all feel the effects of malassimilation and malnutrition—especially when the deafness, as it so often is in childhood, is combined with or due to the development of adenoid growths in the nasopharynx. All these influences, combined, result in producing the narrow-chested, small-boned, feeble-muscled, and mentally inactive specimen so frequently seen in the dispensary clinics. When the sphere of prophylaxis in these cases is considered, the criminality of the negligence which allows of such results becomes more and more apparent.

Dr. Alderton thinks there should be periodical compulsory examinations of school children for the discovery of all such defects as poor eyesight and difficulty of hearing. The parents of children found to be hard of hearing should be immediately notified of the fact and strongly recommended to place them under the care of a competent aurist, either privately or at one of the numerous public institutions. No child need go neglected. As ineffectual treatment is often worse than no treatment, communication should be had with the family physician, recommending that the child be at least examined, if not treated, by a competent specialist.

Coincidentally, he thinks, it should be the duty of the local board of education to form a special class in the public schools for the instruction of these handicapped children by teachers trained especially for this purpose. It is not a matter to be left to private enterprise and charitable institutional methods. The child with impaired faculties is as much entitled to public instruction as the healthy child; the fact that unusual methods and special teachers are required should be no rightful bar to its claim. Let these things come to pass, he says, and the reproach of preventable deafness would pass from us with all its attendant expense to the body politic.

**Itching and its Treatment with Large Doses of Calcium Chloride.**—In the *Lancet* for August 1st Dr. Thomas D. Savill remarks that the frequency and troublesome nature of this symptom make the subject of pruritus or itching one of considerable importance. It is a subjective symptom which may take varied forms in



different individuals and is variously described by them as tingling, smarting, burning, throbbing, creeping (as of insects), and flickering along the course of vessels and nerves, all of which, he says, are included when he uses the term pruritus or itching. Pruritus, or itching, must not be confounded with prurigo, which is pruritus with an eruption which has well-defined characters. The use of the adjective pruriginous as synonymous with itching is not justifiable and leads to confusion.

Etiolegically considered, says the author, pruritus, or rather the peripheral nerve irritation on which it depends, may be *primary*, when no eruption is present or when it only appears secondarily, or *secondary*, where the itching accompanies or succeeds some manifest eruption on the skin.

Illustrations of *primary pruritus*—that is, a condition where itching is the principal and often the only symptom referable to the skin—may be found in jaundice and diabetes; in the pruritus so frequently attacking the aged; in the itching after the hypodermic injection of morphine in large doses, and other drugs directly into the lymph or blood current; the pruritus which follows eating unwholesome food, and especially shell-fish or tinned meats—the itching in such circumstances being often attended by an urticarial eruption, though sometimes pruritus alone is present; and he believes that an illustration of primary pruritus is also found in the disease variously called prurigo, lichen urticatus, urticaria papulosa, etc., which, in his opinion, are names applied to the same disease varied by circumstances.

The pathological explanation of primary itching is not so easy as that of the secondary variety. The question before us, he says, is, What is the pathological change which produces this irritation of the sensory nerve endings or fibrils? It may, in the first place, be remarked that it is hardly likely to be an actual disease of the sensory nerve endings or fibrils—a neuritis—else there would be more frequently symptoms referable to peripheral neuritis, where none such occur; the symptom of itching would not vary, and even disappear, from hour to hour as it often does. What, then, he asks, is the condition which, while it irritates, does not cause definite disease of these structures? Some say an abnormal dryness of the skin—an anidrosis—is the cause of the nerve irritation; but although this dryness exists in some cases of pruritus, notably the itching of diabetes, it is very far from being a constant feature. Moreover, it does not follow that because the surface of the skin is dry the nerve endings in the deeper layers of the epidermis are also dry. It is known, too, that secretion is regulated by nerve influence, so that diminished secretion is rather an effect than a cause of the nerve irritation, or it may be in some cases that they are both the effects of a common cause. Even in the pruritus of cold weather (pruritus hiemalis), which is pointed to in support of this theory, a readier explanation is found of the nerve irritation in the retention in the blood of products which ought to be eliminated by the skin than in the excessive dryness.

This secondary pruritus is readily explained, says Dr. Savill, by the involvement of the nerve endings and fibrils actually in the skin lesion—congestion or inflammation—or, in the case of parasites, by the irritation of their claws and probosces. This is the simple mechanical explanation. The treatment is equally simple and consists of the removal of the cause. The reason itching is absent in some strumous and syphilitic eruptions is probably either because they are frequently pustular and

thus the sensory terminations are destroyed, or because the inflammation is of an indolent and chronic kind. Nerve structures have a wonderful power of adaptability in this respect. Very slowly growing brain tumors may in this way exist for many years without manifesting their presence. In the Hunterian Museum, he says, there is a fibroma of slow growth (judging by its histological characters) occupying both the arm and leg centres of the right hemisphere without having produced paralysis or other symptoms during life, the patient having died from double pneumonia without the tumor having ever been suspected. It is not, therefore, surprising that the nerve fibrils should not be irritated by slowly growing, indolent skin lesions; and, on the other hand, that the itching and smarting should be very severe when the morbid process is rapid or acute.

As to the efficacy of calcium chloride, says Dr. Savill, in relieving the itching, the patients themselves have no doubt whatever. In all the cases which have come under his observation the itching has been relieved, and the eruption, if any existed, has disappeared at the same time. He states further that he has not met with any absolute failures so far, although sometimes the dose has had to be considerable and continued for several weeks. The opportunity of trying the remedy in children for the itching that accompanies urticaria, he says, has not presented itself, but there is every reason to believe that it would be equally efficacious in them.

With regard to the mode of administration, Dr. Savill says that the doses must be considerable, not less than twenty grains three times a day, and they should be gradually increased. Thirty and even forty grains have often succeeded where smaller doses have failed. If administered after meals and in a wineglass of water it is surprising how little these large doses upset the stomach, and he states that he has never known it produce vomiting. Patients sometimes complain that it makes them thirsty, and to cover the salt taste it is best administered with a drachm of tincture of orange peel and one ounce of chloroform water, in which form it is really an agreeable medicine and would be well taken by children. It is important that the diet at the same time should be regulated, no beer, sugar, or sweets being allowed, and meat only in very moderate quantity. It is also important to keep the bowels acting freely. Although improvement is generally noted after the first dose, complete recovery is sometimes not obtained until the blood becomes saturated, and the dose must be increased until this is accomplished. In long-standing cases perseverance is necessary.

When recovery is obtained the dose should be gradually, not suddenly, reduced, and it is very important that the remedy should be continued for at least from one to three weeks after all symptoms have disappeared.

It is not possible yet, he thinks, to indicate precisely which cases are most suitable for this treatment, but it is worth trying in all cases where itching is a pronounced feature.

In most of the cases an actual cure resulted, but in a few of very long duration relief was obtained only so long as the drug was being taken. Nevertheless, cure will probably result with perseverance even in these.

**Glycerin Poisoning.**—Antichievich (*Archiv für Kinderheilkunde*, xx, 1896; *Fortschritte der Medizin*, August 1, 1896) remarks on the rarity of glycerin poisoning, but adds that it is none the less of importance. It showed itself in the form of acute nephritis in the case

of a boy who was under treatment with injections of a glycerin solution of iodoform, but this disappeared at the end of three weeks of a milk diet. In another case hæmoglobinuria came on after the second injection, and there was polyuria for eight days. Further iodoform injections were well borne after olive oil had been substituted for the glycerin. It is remarkable that such decided phenomena should follow upon the use of comparatively small amounts of glycerin, says the author.

**The Abortive Treatment of Acute Suppurative Adenitis of the Groin by Pressure Bandage.**—The frequency with which the complication of acute suppurative adenitis of the groin is present in cases of urethritis and chancroid, says Dr. A. Bradley Gaither in the July number of the *Johns Hopkins Hospital Bulletin*, and the very unsatisfactory results of treatment instituted to check the process, should make any procedure which holds out even a fair chance of success most welcome. When used for abortive treatment, applications of iodine, mercurial ointment, belladonna ointment, etc., have given practically no results, while injections of solutions of bichloride of mercury or carbolic acid are painful and apt to set up a great deal of inflammation. There is also the risk of infecting the bubo, the contents of which are always absolutely free from germs. In the hands of some operators gratifying results have been obtained from injections, but, as a rule, they have been discarded as unsatisfactory. In fact, all the abortive methods having been found wanting, it has become more and more popular with surgeons to abandon such treatment altogether, and to endeavor to bring the condition to an operative stage as soon as possible.

Dr. Lydston, he says, advocates the early and complete extirpation of all buboes. He maintains that when suppuration has begun in the glands, and this suppuration begins early, even as soon as the third day, the inflammation extends to the circumglandular tissue; and then the case becomes long and obstinate, from the continued suppuration.

Dr. Edward Martin says that in the treatment of bubo the best results in the long run would be obtained by immediate incision of the glands as soon as they become markedly inflamed, and closure of the resulting wound by suture. It is a good rule to attempt the abortion of a bubo not longer than three days. If no good results follow in this time, suppuration will almost certainly occur.

Such, continues Dr. Gaither, was his opinion before using the pressure-bandage abortive treatment, but on account of the results obtained from a series of cases he now advises putting on a pressure bandage, regardless of the age of the bubo, if suppuration has not advanced to such a degree as to bring the case practically to the operative stage.

The bandage is applied as follows: A piece of cotton as large as the fist is folded in on itself again and again until it has the shape of the bubo, and when placed on it does not completely cover it. This is carefully adjusted, and a wad of tightly compressed cotton as large as a cocoanut placed over it. Small pieces of cotton are also used on the inner and outer surfaces of the thigh, to prevent chafing. A very tight spica bandage is then put on.

The amount of pain experienced by the patients varied greatly. In some cases the pressure did not seem to increase it at all. In fact, the relief of pain has been, in most cases, remarkable.

One man with a large bubo in each groin had suffered a great deal and had been unable to work for three weeks previous to applying for treatment. Two days after the double bandage had been applied he returned to his work, that of a laborer, and continued the same without interruption while the buboes were being aborted. In almost every variety of treatment for bubo, the point insisted on is rest in the dorsal decubitus. While the patient is wearing the pressure bandage this is by no means imperative, though it is to be preferred. If the bandage remained in position twenty-four hours, even if the gland went on to suppuration, the pain would be diminished.

In a series of cases which were treated in the genito-urinary clinic of the Johns Hopkins Hospital Dispensary, the bandage was used regardless of the condition of the bubo or the apparent hopelessness of success.

Eighteen patients were treated, four of whom were practically in the operative stage when the bandage was applied, and three of the four showed no improvement.

In two cases the men were unable to keep the bandage on more than a few hours, saying that the pain, already great, became unbearable.

Of the remaining twelve cases, the bubo was aborted in nine, including two which seemed to be so far advanced as to leave no chance of success. The earlier the bandage was applied the better was the termination, and if treatment was begun before any sign of suppuration could be made out, a satisfactory result was obtained in more than eighty-five per cent. of the cases.

In estimating this percentage it must be held in mind that in a certain proportion of cases a bubo will subside while we are doing our best to hasten suppuration. Dr. Gaither refers to the case of a man who had a bubo in each groin, one of which had reached the operative stage, while the other was not quite so far advanced. In order that both might be incised at the same time, he was advised to apply a poultice and come back in three days. He kept poultices continually on each bubo, and on his return it was found that suppuration was being checked on both sides, and eventually he recovered without operative interference.

Dr. Gaither thinks that the following can be said in favor of the pressure-bandage treatment: 1. It is safe. 2. Pain is, as a rule, diminished after twenty-four hours. 3. It does not prevent the patient from pursuing his usual occupation. 4. It gives a high percentage of success.

**The Indigestion of Breast Babies.**—The August number of the *Edinburgh Medical Journal* contains an article by Dr. James Carmichael, who says that, for many reasons, less attention has been paid to the gastro-intestinal affections met with in breast babies than in those nursed artificially. Breast milk is the natural and ought to be the sole food of the infant, under physiological conditions, during the first year of life.

In inquiring into the causes of indigestion in breast babies, it may be assumed that, in a healthy child nursed by a healthy mother, it rarely, if ever, occurs. The conditions which lead to a departure from normal conditions, and which injuriously affect the child, are numerous. A certain group of causes which may affect both mother and child simultaneously are defective hygienic conditions generally, such as unhealthy, low-lying, and damp dwelling houses, noxious effluvia from drains, or malarial poison. Under such circumstances both mother



and child are apt to suffer, unless removed from the injurious influences. As it is to the mother specially that we have to look when the child suffers, any departure from normal health is apt to affect her milk supply.

Whenever the milk of the mother is defective in quantity or quality, the child is apt to suffer. It does not thrive or grow at the normal rate. Instead of being plump and firm and happy, it is soft and flabby, and is always crying, and never appears to be satisfied. Its skin is harsh and dry. The tongue is somewhat red, often slightly furred. Vomiting is not infrequent from gastric catarrh. The stools are unnatural, and present various appearances depending on the quality of the milk. They are generally loose, and seldom have the natural mustard color or consistence; but are usually pale, and often of an ashy gray color, sometimes greenish, or mixed gray and green. The soft curd of the mother's milk is present, undigested, in little granular-looking masses. There is an excess of mucous secretion, sometimes little streaks of blood. As a rule, the indigestion of mother's milk is more frequently intestinal than gastric, diarrhoea being more common than vomiting. This, says the author, appears to be largely due to indigestion of the fatty and proteid elements of the milk. Infants, in regard to their digestive capabilities, are but little men and women, and it is certain they have their idiosyncrasies likewise. The milk of a mother seems to be suited to her own child under physiological conditions. It has been proved over and over again that a child who is thriving on its own mother's milk if put to another may suffer, even although the woman is healthy and her milk is found on analysis to be of good quality. This is one of Nature's mysteries which it is difficult to explain, he says, but yet remains as a fact demonstrated by observation and experiment. It shows how subtle and delicate the nutritional relations are between mother and child. If this is so in natural feeding, it helps to explain the difficulties which are encountered when the child is artificially reared.

With regard to the management of indigestion generally, it is well to ascertain the cause, and look to the mother and her habits. The breasts, the milk, and the evacuations of the child should be carefully examined. In this way a conclusion as to the cause of the indigestion in the greater majority of cases may be reached. If there is any disease, functional or organic, of a persistent nature, the case must be considered in all its bearings, and a decision come to as to the possibility of continuing lactation with any prospect of success.

The occurrence of menstruation requires careful consideration in regard to nursing. Analyses show that during the menstrual period the milk is deteriorated in quality, and gives rise to more or less disturbance, often of a trivial nature, in the child. On the cessation of the menstrual flow there is generally a return to normal conditions as regards the quality of the milk, so that menstruation in most cases is not a bar to nursing. It may come on a few months after lactation has commenced, and not recur for several months, so it is undesirable to wean the baby if it can be avoided on the occurrence of the first menstruation. It is a very different matter when pregnancy occurs. In this case it is necessary and desirable that the child should be weaned.

The diet and regimen of the mother during lactation is of the first importance. It must be borne in mind, continues the author, that the whole process is a physiological one, and that a healthy mother requires really no special treatment during the nursing period. She ought

to take her usual food, a plain and mixed dietary, and have a due amount of open-air exercise. A good nurse generally has an excellent appetite and digestion, and is usually able and ought to eat a somewhat larger quantity of food than at other times, and probably a shorter interval between meals may be advisable. She should have a late meal, and in the early morning some soup, or a glass of milk or cocoa and a biscuit or bread and butter. It is desirable that a mother in good average health should fulfill the maternal duty of nursing her child if possible. Many mothers are too apt to seize the opportunity, if anything is wrong, to give up nursing, and in this they are often influenced by the father, who ought to be out of court in such matters. Medical practitioners are apt in many cases to give in to the wishes of the parents in this respect instead of encouraging the mother to nurse her child, and counseling patience and rational treatment with a view to improve the milk supply. Dr. Ballantyne considers it the physician's duty to encourage mothers to nurse their children if there is no distinct contraindication. Inquiry must be made into the habits and hygienic conditions under which the mother is living. The milk must be examined, and will not fail to give valuable information. If it is deficient generally in quantity, he says, endeavor to inspire hope in the mother that she may yet be able to nurse her child; and if her appetite and digestion are good, advise her to take an increased quantity of the lighter and more quickly digested nutriment, with plenty of liquid. If she has too much milk, the fluids must be reduced and the solids increased. Irregular suckling must be prohibited, as a common cause of indigestion in the infant. If chemical examination of the milk shows increase or diminution of the proteids, fat, or solids generally, prescribe accordingly. To increase the solids, give the child the breast more frequently, prevent the mother from overexerting herself, and do not let her drink too much. To decrease the solids, order longer intervals between the nursings, more exercise, and a larger amount of fluid nutriment. Increase of fat indicates the need of less animal food in the dietary. Diminution of fat requires a larger quantity of animal food. The most certain way of regulating the amount of proteids is by muscular exercise, allowing plenty of exercise if the amount of proteids is too large, and decreasing the amount of exercise if they are deficient.

**Injections of Artificial Serum.**—At a recent meeting of the Société de biologie, a report of which appears in the *Journal des praticiens* for July 25th, M. Bosc and M. Vedel presented the following conclusions: 1. Large intravenous injections of a simple saline solution are not toxic, in spite of their quantity and the rapidity with which they are given—from forty-five to eighty-three cubic centimetres a minute. 2. The physiological effects of these large injections are not in proportion with the temperature of the solution and the rapidity with which the injection is made. 3. These injections produce an abundant diuresis which occurs half an hour after the solution has been injected; there is no elevation of the blood pressure, and no albuminuria; but there is acceleration of the heart and an elevation of the central and peripheral temperature which resembles that of fever. 4. A seven-per-cent. solution of sodium chloride is preferable to a five-per-cent. solution. 5. Large intravenous injections of compound saline solution (chloride and sulphate of sodium) are deprived of their harmful effects under the same conditions as those of the



simple saline solution. 6. There is no difference between the effects of these two solutions. 7. The addition of sodium sulphate to the sodium chloride does not seem to be useful; it seems rather to be prejudicial to globular preservation, according to Mayet. 8. During a series of injections each injection produces the same effects as a single injection; they are also equally harmless. 9. The fasting animals appear to be more susceptible to large intravenous injections, but, in spite of the appearance of grave symptoms during the administration of the injections, even apparent death, the animals rapidly return to their normal condition. 10. The simple saline solution (a hundred and five grains of sodium chloride to thirty ounces of water) seems to be the preferable solution for intravenous injections; it produces the minimum of harmful effects and the maximum of physiological effects.

**The Canadian Medical Association.**—The twenty-ninth annual meeting will be held in Montreal on August 26th, 27th, and 28th, under the presidency of Dr. James Thorburn, of Toronto. Besides the president's address, the programme includes the following papers: An address in bacteriology, by Dr. J. G. Adami, of Montreal; an address in medicine, by Dr. George Wilkins, of Montreal; an address in surgery, by Dr. John Stewart, of Halifax; an address in midwifery, by Dr. J. F. W. Ross, of Toronto; Hæmorrhagic Pancreatitis, by Dr. A. McPhedran, of Toronto; A Hundred Cases of Retroversion of the Uterus treated by Ventrofixation and Alexander's Operation, with Subsequent Results, by Dr. A. Lapthorn Smith, of Montreal; The Influence of Mitral Lesions on the Existence of Pulmonary Tuberculosis, by Dr. J. E. Graham, of Toronto; A Note on Amputation at the Hip Joint in Tuberculous Disease, by Dr. A. Primrose, of Toronto; Tetanus following Scarlatina, by Dr. J. B. McConnell, of Montreal; The Ætiology and Treatment of Acne, by Dr. A. R. Robinson, of New York; The Foot, its Architecture and Clothing, by Dr. B. E. McKenzie, of Toronto; Ophthalmia Neonatorum, by Dr. R. Ferguson, of London, Ontario; Observations on the Relations between Leucæmia and Pseudo-leucæmia, by Dr. C. F. Martin and Dr. G. H. Matthewson, of Montreal; Thyroidectomy, by Dr. D. Marcell, of St. Eustace, Quebec; Some Observations on the Heredity of Carcinoma, by Dr. T. T. S. Harrison, of Selkirk; Some Applications of Entomology in Legal Medicine, by Dr. Wyatt Johnson and Dr. George Villeneuve, of Montreal; Physiological Demonstrations of Interest to Medical Men, by Dr. Wesley Mills, of Montreal; The Theory of the Eliminative Treatment of Typhoid Fever, by Dr. W. B. Thistle, of Montreal; Oral Surgery, by Dr. George Lenox Curtis, of New York; Vaginal Fixation of the Round Ligaments for Backward Displacements of the Uterus, by Dr. Hiram N. Vineberg, of New York; Clergyman's Sore Throat (?), by Dr. J. Price-Brown, of Toronto; Non-malignant Tumors of the Tonsils, with a Report of a Case, by Dr. H. D. Hamilton, of Montreal; Sinus Thrombosis associated with Acute Suppurative Otitis Media occurring during Scarlet Fever, by Dr. J. W. Sterling, of Montreal; Some Cases of Foreign Bodies in the Eye, in which the Electro-magnet was used successfully.—An Exhibition of an Artificial Nose Bridge, by Dr. F. Buller, of Montreal; Remarks on Cold Air in the Treatment of Pulmonary Tuberculosis, by Dr. Edward Playter, of Ottawa; Hereditary Cerebellar Ataxia, by Dr. D. Campbell Myers, of Toronto; A Report of Three Cases of Abdominal Section for Conditions Com-

paratively Rare, by Dr. H. Meek, of London, Ontario; The Early Atrophy of Muscles in Cerebral Disease, by Dr. Frederick G. Finley, of Montreal; Electric Baths and Dyspepsia, by Dr. A. L. De Martigny, of Montreal; and Militia Medical Reorganization, by Dr. W. Tobin, of Halifax. Other papers will be read by Dr. William Osler, of Baltimore, Dr. F. J. Shepherd, of Montreal, and Dr. J. C. Webster, of Edinburgh, Ontario.

**The Technics of Dilatation of the Perinæum in Labor.**—In the August number of the *Edinburgh Medical Journal* there is an abstract of an article by Dr. G. Coromilas, of Calamata, Greece, which is communicated by Dr. J. W. Ballantyne, who calls attention to the following method of dilatation of the perinæum, in order that it may be tried in protracted labors arising from rigidity of the perinæum: The woman should be placed in bed on her back or left side, with the legs as in natural labor. The mons, labia majora and minora, perinæum, and vagina should be thoroughly washed and rendered aseptic. The accoucheur should wash his hands very thoroughly, and grease them with the following ointment:

Vaseline.....	750 grains;
Cocaine,	each
Antipyrine,	45

The perinæum, vagina, and os uteri must also be anointed with the same ointment. The accoucheur then passes four fingers of one hand within the vaginal orifice, and makes some semilunar movements, first at one side and then at the other, so as to dilate the perinæum. After having made three or four such powerful movements, he introduces the fingers of the other hand, and repeats the performance. When the requisite degree of dilatation is achieved, he then passes the fingers fully into the vagina until the index, middle, and ring fingers touch the os uteri, and makes again the same movements at the same time as he pushes the perinæum outward with the palmar surface of the hand. When he feels the presenting part pressing upon the dorsal surface of his fingers he must then withdraw his hand and take on his other duties.

Dr. Ballantyne thinks that by this manœuvre we can guard the perinæum and the labia majora and minora from the rupture which happens so frequently, and that we can hasten the emptying of the uterus. Owing to the physiological action of cocaine and antipyrine, the dilatation of the perinæum and the delivery occur without severe pains.

**The Employment of Asbestos for Dressings.**—The *Union médicale* for July 18th contains an abstract of a review of a report made by M. Volintzoff to the Surgical Society of Moscow, which was published in the *Gazette des hôpitaux*. The results of the author's investigations are summed up as follows: The density of this product is much greater than that of cotton or of tarlatan; it is less porous than either of them and less hygroscopic. The escape of vapors takes place more slowly under a dressing of asbestos than under all others. It is not as good a conductor of heat as cotton is, but on this point, says the writer, the results of the investigation are not yet perfectly satisfactory. Asbestos absorbs the albuminoid solutions better than absorbent cotton or tarlatan does. In regard to the clinical observations, says the writer, M. Volintzoff thinks they are yet too small in number to enable him to give a definitive judgment. The product is not expensive, because it may be used several times.

## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

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#### LECTURE III.—ANGINA PECTORIS VERA.

##### PHENOMENA OF THE ATTACK.

**EXCITING CAUSES.**—There are three important elements—muscular exertion, mental emotion, and digestive disturbances. Any muscular effort which calls for increased action of the heart is liable to bring on a paroxysm. Heberden refers particularly to this: "They who are afflicted with it are seized while they are walking, more especially if it be up hill." Some patients who can not walk except on the level without bringing on a paroxysm can, however, take active horseback exercise. In extreme cases even an attempt to move in bed or assuming the sitting posture will cause an attack, or such slight exertion as stooping to lace the shoes. Hurrying to catch a train has been often the exciting cause of a fatal attack in the subjects of angina. The muscular and mental excitement of coitus is particularly dangerous, and has in many instances caused death. Two of my patients laid great stress on the terrible character of the attacks which had followed the act.

The well-known effect of mental emotion has never been better expressed than by John Hunter, who used to say that "his life was in the hands of any rascal who chose to annoy and tease him." And yet some of the victims of angina have not found mental excitement to be the most serious exciting cause. Thus, in Mr. Sumner's case, "a sudden turn in his easy-chair, while quietly reading at night, would start up the most tearing agony, while at other times an exciting speech in the Senate, accompanied with the most forcible and muscular gesticulations, would not create even the suggestion of a pain."—(Taber Johnson.)

For some of the worst attacks, however, neither muscular action nor mental emotion is responsible, since they come on when the patient is quiet and at rest, or may wake him from sleep. Cold is another exciting cause, particularly in the vasomotor form, but in the organic variety a cold wind, even the opening of a window in winter, or the cold sheets at night have been known to bring on an attack.

In almost every case in which the paroxysms recur with frequency the patient lays stress upon the condition of the stomach. Exertion immediately after a full meal, the eating of certain articles of food, and especially late suppers, are very apt to cause attacks; and, as I will mention later, there are instances in which the dyspep-

sia is so marked a feature that the character of the disease is entirely overlooked. In some patients flatulency is one of the most common exciting causes.

**SYMPTOMS.**—In the reports of the two cases which I read to you at the end of the last lecture I described the phenomena associated with the severe attacks. The physician has not often an opportunity of watching the onset and course of a paroxysm. Only once that I remember did a patient have an attack in my consulting room, Mr. S., to whose case I have already referred (XXVI). As he sat quietly in the chair, just after the completion of my examination, his eyes became fixed and he suddenly grasped both hands over the heart. For a moment the face did not change; then it flushed, and the neck became swollen, and the cervical veins full. The face became very much congested, and tears filled the eyes. The respirations, which had been 18, increased to 30 in the minute. The pulse, which had been 80, increased to 90, and became smaller and harder. Considering the increase in the respirations, and the congested state of the face and neck, I was surprised that the pulse changed so little. He remained immobile during the entire attack, which lasted just a minute and a half, passing off abruptly, and he at once began to put on his clothes.

There are two chief elements in the paroxysm: first, the pain—*dolor pectoris*; and second, the indescribable feeling of anguish and sense of imminent dissolution—*angor animi*.

The resources of the language have been taxed to describe the pain of angina pectoris. Patients speak of a hand of iron grasping the heart, or a band of metal encircling it and being gradually tightened; or as though an enormous weight was compressing the breastbone against the spine, or as though the whole chest were compressed in an iron case. In other instances the pain is associated less with pressure than with the sensation of stabbing, as though a dagger had transfixed the heart. While the maximum intensity of the pain is substernal (whence the name of *sternalgia* is derived), it may be in the upper or lower part of the breastbone, or over the body and apex of the heart. There are cases in which the chief agony is opposite the point of the xiphoid cartilage in the scrobiculus cordis. During an attack there may be marked tenderness over the region of the heart, or the left breast or the nipple may be tender to the touch. The pain may cease as abruptly as it began. One of Parry's patients said the transitions from acute pain to a state of ease were so sudden that at times he felt both extremes at the same moment.

A feature noted by Heberden and all the early writers was the radiation of the pain to other parts. Heberden says: "It likewise very frequently extends from the breast to the middle of the left arm. . . . The pain sometimes reaches to the right arm as well as to the left, and even down to the hands, but this is uncommon. In

\* Delivered to the Post-graduate Class, Johns Hopkins Hospital.

a very few instances the arm has at the same time been numbed and swelled." In an instance reported by Heberden the patient had attacks of pain in the left arm without any affection of the chest for fifteen years prior to his sudden death. The pain most commonly extends to the shoulder, to the left upper arm, and to the neck of the same side. When it extends to the arm and hand it is along the inner surface of the upper arm, and in the lower arm on the ulnar side in the distribution of the ulnar nerve. The feeling is one of numbness and tingling, or of pins and needles. There may be hyperæsthesia of the skin. Very often the chief pain is in the region of the elbow, or there may be, as in a case I have already narrated to you, a bandlike sensation around the wrist. Sometimes the radiation of the pain is more marked in the right arm and in the right side of the chest. Quain states that Dr. Morison has reported a case in which disease of the right side of the heart was accompanied by symptoms of angina affecting the corresponding side of the chest and arm. Curiously enough, as noted by Heberden, the pain in the arm may precede the angina attacks for years. Blackall, in the interesting appendix upon Angina to his work on *Dropsies*, refers to the account which Lord Clarendon gives of his father's sudden death, evidently from angina, "without one minute's warning or feare," though the pain is said to have been only in the arm. As this case is often referred to, I will give you the extract from the *Life*. Mr. Hyde was in church, and "found himself a little pressed as he used to be." Going to his home, "the pain in the arm seizing upon him, he fell down dead, without the least motion of any limb." In some cases there is sensory disturbance throughout the entire left side, a feeling of numbness or tingling in the neck, arm, and leg. There are instances on record of extension of the pain to the left testis, with swelling.

There are very interesting areas of cutaneous hyperæsthesia in the attacks, chiefly in the præcordia, about the pectoral fold, and sometimes along the side of the neck. They have been studied particularly by Mackenzie, and are rarely absent.

I do not know of any clearer view in explanation of the radiation of the pain in angina than that which was offered by the late Dr. James Ross, of Manchester. I will quote a brief summary. I do not know whether it was ever elaborated. "When a viscus was diseased there was local pain which might be regarded as of splanchnic origin (præcordial pain in the case of the heart). In addition, the irritation was conducted to the portion of the spinal cord from which the viscus derived its splanchnic nerve, and thence spread in the gray matter of the posterior horns, whence by the law of eccentric projection it was referred to the termination of the somatic nerves derived from the segment of the cord—the second and first dorsal in the case of the heart. This explained the pain shooting between the shoulders and down the inner side of the arm (second dorsal) to the

elbow and the ulnar border of the forearm and hand and ulnar fingers (first dorsal)." \*

The subsequent studies of Mackenzie and of Head have fully corroborated this view. Head † concludes that:

"1. In diseases of the heart, and more especially in aortic disease, the pain is referred along the first, second, third, and fourth dorsal areas.

"2. In angina pectoris the pain may be referred in addition along the fifth, sixth, seventh, and even the eighth and ninth dorsal areas, and is always accompanied by pain in certain cervical areas."

A very remarkable feature is the motor disability which may follow a severe attack. The left arm may not only be numb, but for a time almost powerless. Blackall says that he has seen instances in which the muscles of the arm and chest were not only painful, but were affected with a twitching noticeable by the patient, and visible to the observer. B. W. Richardson ‡ says "the voluntary muscles seem to be affected and rigid." Still more extraordinary is the fact, noted by Eichhorst, § of atrophy of the muscles of the hand supplied by the ulnar nerve.

Von Dusch, in his admirable *Lehrbuch der Herzerkrankheiten* (which remains one of the best works of its kind in the literature), refers the hiccough, the occasional difficulty in swallowing, the globus and uneasy feelings in the throat, and the gastric symptoms to sympathetic involvement of the phrenic and vagus nerves.

*Vasomotor disturbances* are almost constant in the attack. A sudden pallor of the face may be the first indication, and, as a rule, vasoconstrictor influences prevail in the severe paroxysms. A cold sweat breaks out upon the forehead and upon the arms and legs. In recurring attacks I have seen the skin of the hands like that of a washerwoman from constant soaking in perspiration. As in Case XXXV, there may be great pallor and coldness without sweating. Though rarely absent in the organic form of the disease, these vaso-constrictor disturbances are often more pronounced in the hysterical angina. The countenance is expressive of the deepest anguish, and may assume a deathlike, ashen hue. In other instances, as in Case XXVI, the face is suffused, or even deeply congested at the outset, and the veins of the neck may stand out prominently. More commonly in a fatal paroxysm there is pallor at first, which is followed by great lividity, as noted by Powell ¶ in a man who died in his consulting room.

Complaints of coldness and of swelling of the extremities are more frequent in the hysterical form.

In many cases of true angina the pain alone is experienced, but in severe paroxysms the other factor—the

\* *Lancet*, 1891, i.

† *Brain*, xvi.

‡ *Asclepiad*, vol. xi.

§ *Handbuch der speziellen Pathologie*, 5te Auflage.

¶ *Practitioner*, vol. xlvii, p. 234.



mental element, the *angor animi*—is also present. Latham was the first to distinguish clearly these two features of the attack: "The subjects of angina pectoris report that it is a suffering as sharp as any that can be conceived in the nature of pain, and that it includes, moreover, something which is beyond the nature of pain—a sense of dying." And he adds, "the dying sensation I have more frequently found to surpass the pain than the pain the dying sensation." The one is in reality a physical, the other a mental phenomenon, and was described by Heberden's unknown correspondent as the sensation of a universal pause in the operations of nature, or a sense of imminent and immediate dissolution. This feature of the attack was certainly referred to by Seneca (quoted by Gairdner) when he says, "As compared with any other disease, it is like the difference between being sick merely and giving up the ghost." Associated with this sensation there may be a feeling of air-hunger, or, as one patient expressed it to me, the same sensation that one has after holding the breath for as long as possible; yet the attack is not necessarily associated with any special respiratory disturbance.

The attitude during an attack is best described by the word immobile. If seized on the street, the patient grasps a lamp-post or leans against a wall, unable to stir until the agony has passed off. The attack usually comes on during some slight exertion, while the patient is in an erect posture. He may be quite unable to sit down. In other cases, when the attack comes on at night, the patient usually assumes the sitting posture, or other cases find slight relief by pressing a firm pillow to the chest, or by pressing firmly against the back of a chair. Immobility, however, is not a constant feature of a paroxysm of true angina. In Charles Sumner's case, Dr. Taber Johnson notes that he would at times get ease by walking the floor, quite unconscious of any increase in the agony by the exertion. In others the erect posture is assumed with the head and shoulders thrown back. One patient assured me that in moderate attacks on the street, by a strong effort of the will, he could continue to walk and the pain gradually subsided. This is like the gigantic farmer, of whom Forbes tells, who thought he could rule the disease as he did his horses.

STATE OF THE HEART AND PULSE.—Heberden states that "the pulse is at least sometimes not disturbed by this pain, consequently the heart is not affected by it." Parry is more positive as to the occurrence of change, holding that "whatever may be the state of the pulse as to regularity, I believe we shall always find it become more or less feeble according to the violence of the paroxysm." The question is one about which very diverse opinions are held, and you will find in vol. i of the *Lancet*, 1891, several interesting letters which passed between Professor Gairdner and Dr. Harrington Sainsbury. It is quite evident that there are good authorities who accept the statement that in some cases at least the paroxysm is not associated with special change in

the pulse, and consequently not in the action of the heart.

The opportunities for observing the paroxysm do not come very often, and when they do the condition of the patient is such that our efforts are directed rather toward his relief than to the study of special points in the case. In an attack of moderate severity, such as Mr. S. (Case XXVII) had in my consulting room, the pulse, which had been 80, increased to 90 in the minute, and became smaller and harder. The tension certainly became increased, but I had not time to do more than count the radial beats for half a minute and to listen hurriedly to the heart sounds before the attack was over. In Case XXXII, in the first paroxysm in which I saw him, January 3d, the state of the pulse threw me a little off my guard; it was full and regular, and did not change much, if at all. I am not certain that it was an intense attack, as he threw himself about on the bed, the face was flushed, and there was a good deal of commotion. Subsequently the pulse became feeble and irregular, 115 a minute. Then, on the day before his sudden death, the pulse was soft, regular, without special tension, and 90 a minute. In Case XXIII the pulse fell in the paroxysm to 42 in the minute and became small and soft. For days the range had been about 96. For several hours after the paroxysm the beats at wrist and at heart ranged from 40 to 50 a minute. Subsequently the heart beats became more numerous than the pulsations at the wrist, ranging from 60 to 70 a minute. In Case XXXVI I did not see the patient in his first paroxysm, but three hours later the pulse was 90, of fair volume, regular, and without increase of tension. On succeeding days, as the attacks increased in frequency, the pulse became small, feeble, and at times could not be felt. Following a series of severe attacks, the pulse may be persistently small and irregular, as in Case XXXV. In Case IV, that of a man, aged forty-five, admitted to the University Hospital, Philadelphia, February 24, 1887, I had several opportunities of feeling the pulse during the paroxysm. On the 25th the pulse was 80, regular, and small, and the respirations 34. During an intense paroxysm the pulse became more and more feeble and at last *could not be counted*. This sentence I find underlined in my notes.

Osgood has called attention \* to a remarkable difference in the radial pulse of the two sides. The case was one of hysterical angina in a young girl. Huchard (p. 524) refers to its occurrence in true angina, both in the attacks and in the intervals. The heart's action in severe spells is probably always disturbed, the force of the impulse weakened, and the rhythm altered. There are two changes which have been most common in my experience—namely, the shortening of the long pause and the occurrence of gallop rhythm. Whatever may be the mechanism of the production of these changes, they

\* *American Journal of the Medical Sciences*, October, 1875.

both, I think, mean the same thing, weakening of the ventricular systole from dilatation and debility of the muscular wall. The case which called my attention to the fetal heart rhythm following angina I saw with Dr. Underwood, at Pittston, Pa., in February, 1889. The patient, Case VI, aged sixty, had well-marked signs of myocarditis, with cardiac asthma and severe pains about the heart and down the arm, so that he had to take morphine freely. I saw him shortly after an attack: the pulse was 104, weak, and irregular. At apex and base the sounds were clear, rather ringing in quality, and all distinction between the two seemed lost. "There was a shortening of the pause between the second and the first sounds, so that they followed each other in a uniform series, as in the fetal heart beat." This, so-called, embryocardia was a most persistent feature in Case V, and was present also in Cases XIX, XXIX, XXXV, and XXXVI. The gallop rhythm is, I think, met with quite as often, and was present after attacks in Cases XI, XIII, XIX, XXXII.

It does not fall to the lot of many physicians to witness a sudden death in angina, but there are observations to show that the pulse beats (and the heart) stop abruptly. Potain mentioned a case to Huchard (p. 525), and in the case of our good friend, Mr. E., Case XXXV, Dr. Thayer, who was present, tells me that the death seemed instantaneous—the pulse ceased *at once*, and there were no further heart beats. As I before remarked, the mode of death resembles that produced by Kronecker's heart puncture.

As the subjects of angina pectoris present very frequently the signs of arterio-sclerosis and increased tension, you will often find a ringing, accentuated, aortic second sound. An aortic diastolic murmur is much more common than my figures would indicate. As I have already mentioned, mitral-valve disease is rarely present. There is a very interesting feature in certain cases of angina with recurring attacks—viz., that with the development of a mitral systolic murmur the attacks have ceased as though a relief of the intraventricular pressure had been effected by the establishment of a relative mitral insufficiency. My attention was called to this point by Musser, who has had several illustrative cases, and Broadbent has dwelt particularly upon this point.\*

**PERICARDITIS.**—During a severe attack pericarditis may develop from the involvement of the epicardium in a softening infarct (Kernig †). Dock has described the onset of pericarditis in a case of thrombosis of the coronary artery, due to the same cause. Hood ‡ records a case in which the friction developed twenty-four hours after the attack, and subsequently there were signs of effusion. In the discussion which followed, De H. Hall mentioned a similar case.

(To be concluded.)

## Original Communications.

### A CASE OF THROMBOSIS OF THE LATERAL SINUS, WITH RECOVERY AFTER OPERATION.\*

By JOHN L. ADAMS, M. D.,

ATTENDING SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY;  
ST. BARTHOLOMEW'S NIGHT CLINIC FOR DISEASES OF THE EYE, EAR, AND THROAT

THREE years ago I had the honor to report a case of thrombosis of the lateral sinus in which operative interference failed to save the patient's life. I made that case the text upon which to base a plea for early exploration of the lateral sinus when its involvement was suspected, and also that this and other operations for troubles secondary to ear disease should be performed by the aural rather than by the general surgeon. To-day I feel gratified to be able to report a successful case of this nature in which I operated in my capacity as aural surgeon:

I was consulted on the 9th of last March by a lady twenty-four years of age, who, until five years ago, had always enjoyed very good health. At that time she caught a severe cold and her left ear became affected. She consulted a doctor, who prescribed the instillation of drops. In a few days otorrhœa began, which persisted for a year, and finally ceased under treatment by syringing with lukewarm water and chamomile tea. From that time on she had tinnitus in this ear and a feeling of dizziness whenever the least pressure was made on the external auditory canal. With these exceptions she had suffered from no disease of any kind until six weeks previous to her consultation with me. At this time she caught another severe cold, and during a paroxysm of coughing was seized with a sharp pain in the same ear. Four days later she consulted a well-known aural surgeon, who advised syringing the ear with a warm solution of boric acid three times a day. This seemed to give her relief and the inflammation apparently subsided.

Ten days before I saw her she went to the doctor complaining of severe pain in the same ear. He advised an operation, probably paracentesis of the drum membrane, but this was declined, and the patient was then told to put hot onions in her ear. This was done, and after two days a discharge appeared, but the pain persisted. She then consulted the doctor again, and was told to syringe the ear with a warm solution of boric acid. This failed to control the pain, so three days later a leech was applied, and afterward hot fomentations were used. Still the pain grew worse. Two days after the leech was applied a swelling appeared behind the ear. All the symptoms were worse on the following day. During the next night she fainted a number of times, and on the following day had chills at short intervals, vomited twice, and was too prostrated to be able to sit up, and the temperature rose to 104° F. The pain was at this time principally confined to the ear and the frontal portion of the head, and, as she described it, "felt as though some one was twisting a knife around in her head." There was no profuse perspiration and no involvement of the throat or of the

\* *British Medical Journal*, 1891, i, p. 747.

† Quoted in *Lancet*, August 20, 1892.

‡ *Lancet*, 1884, i, p. 205.

\* Read before the American Otological Society at its twenty-ninth annual meeting.



eyes. The next day she consulted me, and that same afternoon submitted to an operation at the New York Eye and Ear Infirmary.

On admission to the hospital the patient complained of intense pain over the left mastoid, which was swollen and very sensitive to pressure, especially at the tip. This swelling extended down the neck, but no cordlike condition of the jugular vein could be distinctly made out. Whitish purulent masses were found in the external canal and the posterior wall was swollen and boggy; the membrana tympani was nearly destroyed, only the upper segment remaining. The head of the malleus was carious. The mucous membrane of the tympanum was edematous and bathed in a suppurative discharge. The patient was greatly prostrated, pulse rapid and weak, temperature 103.4° F. She still had chilly sensations and vomiting. On examination of the eyes I found a slight retinal hyperæmia but no evidences of beginning choked disc.

The patient was admitted to the hospital at 4.30 P. M., and at six o'clock the operation was commenced under ether. The hair was shaved from about the vicinity of the mastoid, and the integument of that region and the neighboring parts thoroughly cleansed and rendered aseptic with soap and water and a solution of bichloride of mercury (1 to 1,000). I then made a vertical linear incision about a quarter of an inch behind the posterior border of the external osseous meatus, extending from the tip of the mastoid to half an inch above the posterior root of the zygoma. From the upper extremity of this I made another incision directly backward for about three quarters of an inch. These incisions penetrated the periosteum, which was immediately elevated with the soft tissues by means of a periosteal elevator. The outer bony table of the mastoid was then removed with a chisel, and I found that the posterior osseous wall of the external canal, together with the intercellular partitions in the mastoid, had been destroyed, and that the cavity was filled with pus and cholesteatomatous material. This cavity and that of the middle ear I carefully curetted and thoroughly cleansed with a solution of bichloride of mercury (1 to 5,000), being very particular to remove all sources of infection. I then uncovered the sinus by extending the opening in the bone backward and removing the inner table by means of a chisel and rongeur forceps. As this plate was removed a small amount of pus escaped from the sigmoid groove about the sinus. I then exposed the sinus for fully an inch in order to facilitate the operation and to cleanse it externally. After curetting away a few adhesions and washing it thoroughly with a solution of bichloride of mercury (1 to 5,000), the sinus seemed to pulsate, to be of normal consistence, and the walls did not appear to be thickened. I decided, however, to follow my usual custom and make an exploration so as to be perfectly sure in regard to the existing condition. I therefore introduced a sterilized hypodermic needle into the sinus and found that it contained no blood. I then laid it open with a scalpel for about three quarters of an inch and found it to contain a cordlike mass which proved to be a dry clot. I then passed a small curette upward and backward toward the torcular Herophili and removed this clot until fluid blood appeared. The contents below were removed for as great a distance as the curette could be introduced, but no fluid blood could be obtained from this side. The sinus was then irrigated with a normal salt solution and packed with iodoform gauze. The upper part of the wound was sutured and

the usual antiseptic dressing applied. The recovery from ether was good.

March 10th.—The patient slept fairly well and was quite comfortable during the night. The temperature this morning was 104° F. Patient was quite weak and coughed considerably. Complained of stiffness in the neck. Examination of the chest revealed nothing. She was given half an ounce of whisky every two hours, a twentieth of a grain of sulphate of strychnine, and half a grain of codeine every three hours. In the afternoon the dressing was changed. The wound was found to be clean, with no discharge. The temperature remained high and the pulse weak.

11th.—The patient coughed a good deal during the early part of the night, causing pain in the head, but slept most of the time. This morning the temperature had fallen to 101°, pulse was better, and the patient seemed brighter and stronger. The wound was dressed.

12th.—Patient complained of pain in her left ankle and left wrist. The pain in head and neck appeared to be subsiding. The pulse was stronger and the patient seemed better this morning. A lead-and-opium wash was applied to the ankle and wrist. In the afternoon the wound was dressed, the stitches removed from its upper portion, and a pocket of pus was found beneath the scalp. After the dressing the temperature rose to 102.4° F. As the bowels had not moved since the operation an enema was given, but was not retained.

13th.—Patient slept well after taking five grains of phenacetine and ten grains of trional. Coughed less, had less pain, and could move in bed with less discomfort. Temperature, 102.6°; respiration easy and regular; pulse, 100, and of better tension. A small amount of pus found beneath the scalp, otherwise the wound looked well.

14th.—Patient coughed very little, and moved about in bed better without assistance. During the night she was restless, and her temperature rose to 103°, but after the administration of ten grains of phenacetine fell to 99°.

15th.—Patient was bright this morning, but the temperature rose to 102.3°.

19th.—The temperature was quite irregular for the preceding three days, ranging from 99° in the morning to 103° in the afternoon. There were no chills, no profuse perspiration, and no delirium at any time. The wound was dressed daily. It was now closing from below with healthy granulations. The pocket under the scalp was now free from pus. The sinus was still uncovered and collapsed.

22d.—Temperature for past three days normal, except for slight rises to 99.3° during the afternoon. The patient was now comfortable, sitting up in bed, and in every way stronger and better. The cough had ceased, but occasionally she complained of pains in her limbs.

25th.—Sinus still uncovered, and the wound closing slowly.

April 1st.—Temperature normal for a week. Patient slept well, had a good appetite, and was allowed out of bed, but was still unable to walk around. The wound was closing rapidly.

8th.—The patient was able to walk about the ward without difficulty. She had no pain, and the wound was becoming well filled with granulations.

11th.—Patient was discharged from the hospital with the wound nearly healed.

May 1st.—Patient was seen at my office, and the wound was then entirely healed.



Thrombosis of the cerebral sinuses was, I think, first accurately described by Abercrombie in 1818, but it was reserved for Zaufal, in 1880, to suggest the practicability of opening the lateral sinus and removing the inflammatory products. The same surgeon, four years afterward, reported a case in which he washed out the sinus with a two-per-cent. solution of carbolic acid, but the patient died two weeks later of pneumonia. This inaugurated a pronounced advance in the surgical treatment of this disease. In the majority of cases noninterference results in the death of the patient, although recovery may take place, as is shown by isolated cases that have been reported in which symptoms held to indicate thrombosis have abated, and by autopsies that have occasionally revealed old obliterations of the lateral sinus and jugular vein. Some aural surgeons have taught that operative interference in these cases should be confined to the ear and mastoid alone, at least until the further progress of the case shows this to be insufficient. This was the view held by so able an aural surgeon as the late Professor Moos, who six years ago reported a case successfully treated by the evacuation of the pus in the mastoid cells. It is true that, as he says, "if we remove this pus the chances of a natural recovery are much improved," but how good these chances are may be inferred from the following passage in the same paper: "Thrombosis of the lateral sinus may be recovered from if the patient survives the consequences of the breaking down of the thrombus. Either the lumen of the vein finally becomes free through the total breaking down of the thrombus and the restoration of the normal circulation, or the thrombus becomes united with the vein into a solid cord, and a sufficiently extensive anastomotic circulation becomes established." Pickering and others have reported similar cases in which patients with marked symptoms of thrombosis have recovered after simply a thorough opening, cleansing, and drainage of the mastoid and middle ear without interference with the sinus. But I can not approve of this method. Quite a number of both successful and unsuccessful attempts to ameliorate the condition by operations upon the sinus and the jugular vein have been made, and, so far as I have been able to learn, in the unsuccessful cases the patients appear to have died in spite of rather than on account of the operation. The condition present is one of great danger, and when a delay is made to note the progress of the case after evacuating the pus from the mastoid cells, an opportunity is given for the thrombus to break down and for its portions to be carried into the circulation to cause infarctions and pyæmia, which may be, but seldom will be, survived by the patient. The few who recover demonstrate only the wonderful recuperative powers which the body will occasionally exhibit; they do not prove that it is good surgery to avoid interference with a pathological condition which of itself irrespective to a certain degree of its cause, imminently threatens death.

The first successful cases of which I have found a

record are those reported by Mr. Arbuthnot Lane in 1889, in which he ligated the jugular vein, opened the sinus, and removed the clot. Mr. Ballance followed in 1890 with four cases treated in a similar manner, two of which were successful. During the same year Sulzer opened the sinus and removed a foetid mass in two cases; one patient died, one recovered. In 1893, Mr. Lane reported ten cases of subdural abscess, periphlebitis, and thrombosis secondary to aural disease. No operation was performed on the sinus or vein in three cases. Seven patients had the jugular vein ligated, and six had, in addition, the sinus opened and its contents removed. Of these seven, only one died, and the autopsy revealed in that case an extension of the thrombus to the other cerebral sinuses. It would require too much time and space as well as impose too great a tax upon your patience for me to enumerate the gentlemen who have followed the lead of these pioneers in this branch of aural surgery, and if I name Macewen, of Glasgow, Pritchard, of London, Crockett, of Boston, Moss, of Texas, and Cleghorn, of New Zealand, it is only to indicate how extensively this operation has been accepted and is successfully practised to-day.

I can not unqualifiedly concur with Griesinger that the diagnosis of thrombosis of the lateral sinus is, at best, only a diagnosis of probability, although it is frequently obscure, and Jansen maintains that in pure sinus thrombosis without degeneration all symptoms may be completely wanting. Fortunately, the complications of aural disease from which it needs to be distinguished are intradural or extradural abscesses, which demand the same exploratory procedure as the trouble we are now considering, and are not infrequently associated with it. The diagnostic symptoms may be given as severe pain in the ear, persistent headache, chills, high and fluctuating temperature, rapid pulse, stupor, vomiting, and constipation, all usually associated with a cessation of the otorrhœa. I believe that Wreden was the first to call attention to the diagnostic importance of the high fluctuations of the temperature in this condition, which is very great, although not present in all cases. According to the statistics compiled by Forselles, the daily variations of temperature are greatest in the uncomplicated cases. Chills are usually among the early symptoms, but may appear in the second or third week, or later, or may be entirely absent. Vomiting is an initial symptom in about twenty-five per cent. of uncomplicated cases, somewhat more frequent when other cerebral lesions are present. Vertigo is an initial symptom in about thirteen per cent. of uncomplicated cases, in from thirty to thirty-five per cent. when meningitis is present, and rarely occurs later in the disease. Headache is usually diffuse, and is frontal in only a small percentage of cases.

Edema of the temporal region is stated by Moos to be a pathognomonic symptom of thrombosis of the lateral sinus; Bennett believes this is true of edema and tenderness over the post-mastoid region, particularly

over the mastoid foramen, while Griesinger maintains the importance of œdema over the mastoid. These are all, I think, unreliable. Distention of the superficial veins is dependent to a large degree on the extent of the thrombus, and is seldom very marked, but it is good corroborative evidence when present. The most valuable diagnostic sign which can be obtained is phlebitis of the deep veins which communicate with the sinus, particularly of the internal jugular. This vein may then be appreciated as a hard, tender cord in front of the edge of the sterno-cleido-mastoid in its upper part, so tender that pressure will sometimes elicit expressions of pain when the stupor is so marked as to make it difficult to rouse the patient. At times, pain obtained by pressure on the upper part of the posterior cervical triangle will indicate phlebitis of the deep cervical veins which are too small and too deeply situated to be individually felt. Choked disc may be present in thrombosis of the lateral sinus, but it is not properly symptomatic of this condition. It shows an interference with the circulation through the retinal vessels, which may be produced by an extension of the thrombus into the cavernous sinus or by the presence of a meningitis which extends beyond the immediate vicinity of the sinus and forms a complication. I do not think it is ever present in a pure, uncomplicated case of this nature.

The relation which the extent of the thrombus and the general septic infection bear to each other is uncertain. Lane believes that the latter is the more severe the less the thrombus is extending, while I understand Forsselles to maintain the contrary opinion, and Koerner holds that if the occlusion by the thrombus is complete there will be little or no infection of the general system. I do not propose to attempt any explanation of such disagreement, but mention it simply to show what a weak basis any surgeon has upon which to rest a decision to leave either a large or a small thrombus *in situ*, unless some complication is present which serves to render the operation nugatory.

In regard to the operation: The first procedure in every case should be to thoroughly evacuate all of the products of inflammation from the middle ear, antrum, and mastoid cells. After this has been done, the wound in the bone should be enlarged backward, and the inner table removed so as to expose the sinus, which then lies in the wound convenient for examination. A thoroughly sterilized hypodermic needle should then be introduced and an attempt made to withdraw fluid blood. If properly done, I believe this procedure to be without danger to the patient, and the evidence thus obtained is convincing in regard to the presence or absence of a thrombus. I have done this in quite a number of cases where thrombosis was suspected, and have never had occasion to regret it. If fluid blood is not obtained in this manner a thrombus is present, and three operative methods are open to the surgeon: first, to simply ligate the jugular vein, as suggested by Mr. Lane in 1891; second,

to open the sinus and remove the thrombus with a curette; third, to combine these two operations. Simple ligation of the jugular vein has not been done many times and does not seem to have been attended with as great success as the two others have been. The advice of most of the English writers is to ligate the vein first and afterward open the sinus, but I should reverse this—open the sinus first, observe the conditions there present, and then, if advisable, ligate the vein. In the case I report to-day I did not consider this ligation necessary, and the result has proved that it was not, but in many cases, particularly where the thrombus is septic and breaking down, it may be judicious not only to ligate the jugular vein, but to cut it across, bring the distal part out of the wound, and remove the septic clots by means of irrigation with some suitable solution, as was done by Mr. Ballance in one of his cases. At the close of the operation the lumen of the sinus must be occluded by packing and pressure and the wound dressed with the utmost antiseptic care and precaution.

Recovery is fairly prompt. When death occurs it is usually in consequence of the extension of the thrombus to the cavernous and other sinuses, or from pyæmia, but the operation is severe and the danger from shock must not be forgotten.

In conclusion, I wish once more to urge that exploration of the lateral sinus with a sterilized hypodermic needle is a safe and justifiable proceeding in doubtful cases, that the operation described affords a better chance for the patient's life than any other yet suggested, and that this operation belongs to the province of aural surgery and should be performed by the aural surgeon.

## THE TREATMENT OF ATROPHIC RHINITIS.

WITH A CASE.\*

By W. PEYRE PORCHER, M.D.,

CHARLESTON, S. C.

THE object of this paper is to elicit a consensus of opinion in regard to the best method of treatment of atrophic rhinitis. It is pitiable to find out what desperate measures are resorted to for the relief of this condition, because people believe that doctors are helpless to relieve them, and therefore willingly accept the most violent or disgusting remedies. For example, I was recently informed by a comparatively intelligent man that he had been almost cured by inhaling his own urine. This he practised continually until he was induced to discontinue it by the fear of gonorrhœal or syphilitic contagion in the nose and eyes.

It is hard to find any two authors who agree upon a specific line of treatment. The journals teem with innumerable suggestions, the majority of which are generally utterly useless, because they are not directed to

\* Read before the American Laryngological Association at its eighteenth annual congress.

the cause of the disease, and very often even aggravate a condition which is already almost if not quite incurable. In order, therefore, to get the best result possible—which is at best a palliative one—it is necessary to determine what is the exact cause of the disease and what is the *status præsens* of a case which aggravates the condition and completely obviates Nature's efforts at repair.

Many theories have been advanced of the aetiology of this disease. Dr. Mackenzie says: "That atrophic rhinitis always appears as a sequel of a pre-existing catarrhal inflammation is rendered highly probable from a number of clinical and pathological facts. If the clinical history be accurately taken, it will point to a pre-existing catarrhal process. As has been indicated above, the rapidity with which the hypertrophic passes into the atrophic form of rhinitis is proportionate in all probability to the possession of some constitutional taint, such as congenital or acquired syphilis."

Dr. Bosworth says that a purulent rhinitis in childhood is a catarrhal process in the first year and a catarrhal process always, and that it consists essentially in an increased secretion of mucus in the earlier stages, together with a rapid desquamation of epithelial cells, which, running its course as a purulent disease in from five to ten years, develops finally into what is known as atrophic rhinitis. The disease, in fact, is the first stage of so-called dry catarrh or ozæna. The theory that a purulent inflammation of the accessory cavities was the cause of atrophic rhinitis was advanced many years ago by Michel.

An hypertrophied mucous membrane was found in one nostril with atrophic degeneration in the other, but that does not prove that either condition is dependent upon the other.

Syphilis frequently results in atrophic degeneration of one or both nostrils as a natural result of the ravages of that disease.

Purulent discharges originating in any of the accessory sinuses or resulting from a simple acute inflammation may likewise result in atrophic degeneration, with more or less complete destruction of the muciparous glands and follicles.

The effect of pus on the epithelia and glandular structures, especially in the nose, need not be dilated on here, but it has been a well-observed fact that atrophic degeneration almost always begins upon the middle turbinate bones, and it has also been noted that scabs which become incrustated there and elsewhere almost always contain some particles of pus incarcerated on the under surface of them. Of course, it may be said here that atrophy may result from the simple non-use of any organ without the presence of any inflammation—simple or purulent—to produce it.

Paradoxical as it may appear, but nevertheless true, the nostrils of habitual mouth breathers or those to whom the nose is little more than an ornament on the

face, instead of becoming larger from atrophy of the mucosa, become narrower and more occluded, almost as though an hypertrophic instead of an atrophic process had been established, so that it can not be said that atrophic degeneration is in any case due to simple non-use of the organ—first, because of the reason above cited, and, second, because the worse cases of atrophic rhinitis are often found in those who live in workshops where they breathe the most foul air, sooty emanations, etc.

Atrophic rhinitis occurs quite often at a very early age. Large green scabs forming complete casts of the nose have been found in children of seven years and younger. In these cases the aetiology of hypertrophy—dust inhalation, etc.—has to be entirely excluded. This was notably the case in a child of six or seven years that was brought to the writer several years ago. There was no specific taint in this case, and hence there could be but one cause to which the disease could possibly be attributed—namely, a prolonged acute rhinitis, resulting in an acute cold, which had been left to run on until the nasal mucosa was almost entirely destroyed.

It is apparent, then, as has been stated by some writers, that atrophic rhinitis is not a disease *per se*, but is the result of any inflammation, acute or chronic, specific or non-specific, whether excited by exposure to cold or continuous inhalation of irritating dust, vapors, etc., which ends in a purulent discharge, and which may or may not involve the accessory sinuses, but is sufficiently prolonged to wash away the epithelia and destroy the nasal mucosa, turbinates, etc. If this is true, what measures should best be instituted for the relief of the patient, and what hope have we that the formation of scabs may be stopped?

It would be but a simple matter to search for and give free outlet to all pus cavities, scrape away carious bone, and wash out scabs, etc., but it has heretofore been the humiliating experience of the writer, in common with other physicians, to find that the scabs continued to reform exactly as they did before, and that the douche had to be used as persistently as ever.

It is with great hesitancy, therefore, that I venture to offer a method of treatment which in one case at least has exerted a marked influence in stimulating the nasal mucosa to an almost hypersecretion, and causing the scabs to move from their former site, so that they might more easily be blown out of the nose.

The patient was a lady, aged thirty-four years, without any specific taint that I could detect, of splendid physique, and in excellent health otherwise. The scab formations were first noticed about fifteen or more years ago, following an attack of measles. Since then she has suffered much at the hands of many doctors and from varied treatments. The inferior and middle turbinates are gone on the left side and seriously injured on the right. When she came to me I first suspected involvement of the accessory sinuses, but, on account of uncertainty, I resorted to almost every kind of local stimulating application in combination with iodide of potassium, freely administered internally. This was given not for



its antisyphilitic effect, but on account of its influence on lachrymation, etc.

Scarcely any local improvement resulted from this. Finding, then, that the left side was the most seriously affected, I opened the antral and ethmoidal sinuses on that side thoroughly, and irrigated them daily with antiseptics, but this also failed to afford relief.

Acting upon the suggestion of the Gottstein cotton tampon, I saturated a pledget with a strong solution of iodine, glycerin, and the iodide of potassium as follows:

R Iodide of potassium..... 3 ijss.;  
Iodine..... gr. xl;  
Glycerin..... ʒ j.

M.

This was packed daily between the upper turbinate and the roof of the nose, and allowed to remain for twenty-four hours. Profuse lachrymation and supersecretion were caused, and the scabs were forced from their old location and collected in the lower nostril and were blown out. The scabs still continue to form, but the patient is enabled to get them out much more readily and to partially do away with the use of the nasal douche.

As already above stated, this paper is written purely in hopes that it may elicit the best practical measures for the relief of these cases, because they are surely regarded at present by the laity and general profession as the *opprobria medicorum par excellence*.

## ANÆMIA CAUSED BY TAPEWORMS

(*BOTHRIOCEPHALUS LATUS*)

OBSERVED IN THE UNITED STATES.

By JARL HAGELSTAM, M. D.,

HANGO, FINLAND.

As far as my knowledge goes, there has not to this date been placed on record in the medical literature of the United States any case of that characteristic anæmia which is caused by the intestinal parasite *Bothriocephalus latus*, quite commonly found in some parts of Europe. Neither do I know if this parasite is frequent in America, but, as it is no doubt imported there by hundreds of immigrants every year, it would be astonishing if it did not there also create the disease which it seems to be able to cause occasionally.

In Europe the *bothriocephalus* is frequently found in the Baltic provinces and in St. Petersburg, in Poland, Finland, Sweden, in some parts of Switzerland, Germany, and Italy. Outside of Europe it is reported to be frequent in Japan.

This tapeworm has generally been considered as one of the most innocent among the intestinal parasites, until, in 1885, Hoffmann, of Dorpat, for the first time drew attention to the fact of its being able under certain circumstances to cause a severe, sometimes fatal anæmia, presenting the same clinical symptoms as the disease which, in 1868, Biermer first described under the name of pernicious anæmia.

This *bothriocephalus* anæmia was shortly after described also by Botkin in St. Petersburg, Reyher in

Dorpat, and Runeberg in Helsingfors. In an excellent monograph, Dr. O. Schauman treated the rich material found at Runeberg's clinical department of the University Hospital at Helsingfors (Finland), proving that the *bothriocephalus* anæmia with respect to the symptoms and the pathological alterations of the blood in no way differed from Biermer's "pernicious anæmia," although the former in most cases can be cured by the expulsion of the tapeworms.\* The reason why this generally innocent parasite in some cases creates such a severe disease is explained by Dr. Schauman, in accordance with Schapiro and others, by supposing some kind of intoxication or infection by some chemical matters produced by the parasite under certain circumstances (disease of the worm).

The symptoms of the *bothriocephalus* anæmia—viz., excessive wax-yellow paleness of the skin and of the mucous membranes and a slightly icteric coloration of the conjunctivæ in combination with headaches, epigastric pains, lack of appetite, and general weakness with or without rise of temperature, and contrasting with the mostly undiminished subcutaneous adipose tissue—are characteristic enough to be recognized at once by one who is familiar with the disease. Not less characteristic are the changes of the blood. By microscopical examination the red blood-corpuscles are found greatly diminished in number and show remarkable changes with respect to size and form (poikilocytosis), while the number of the white corpuscles seems to be increased. The fæces show, under the microscope, quite a number of the characteristic eggs of the parasite even in cases where the patient himself does not know that he carries a worm in his bowels.

Not very seldom it happens, a worm cure having been administered, that no worm is expelled, while by a repeated examination of the fæces eggs can not be found and the patient recovers. In those cases the parasite has been killed and putrefied without appearing in the excreta.

Relapses are not infrequent, and sometimes occur after years of perfect health. Whether in those cases a new infection has taken place or whether some living worm heads have remained in the bowels and produced new proglottides is not easy to prove. The patients often give a history of a similar disease at some previous time, from which they have recovered without any medical treatment. Probably the worm in those cases was expelled spontaneously or died and became absorbed. The relapse then, however, often proves severer and not seldom proves fatal if the worm is not expelled soon enough.

In a paper read at the *Versammlung deutscher Naturforscher und Aerzte*, in Berlin, 1886, Mr. Runeberg reported nine deaths from "pernicious anæmia" in the medical department of the hospital in Helsingfors dur-

\* Ossian Schauman. *Zur Kenntnis der sogenannten Bothriocephalus-anæmie*, Helsingfors, 1894.

ing the years 1877-'83, and in most of these cases the bothriocephalus had been found at the autopsies. Since that time the faeces in every case of anaemia have been examined, and whenever eggs of the worm have been found, anthelmintics have been administered. During the years 1883-'86 nineteen cases of "pernicious anaemia" were thus treated, and of those only one was fatal—the day after the patient entered the hospital.

Dr. Schauman's monograph includes seventy-two cases, of which twelve ended fatally. To those who wish to study the subject more profoundly this excellent work is to be highly recommended.

Judging from the communications which have appeared in medical literature to this date, it seems very strange that bothriocephalus anaemia has been reported only in the Baltic provinces, in St. Petersburg, and in Finland, with the exception of a few single cases in Bern (Switzerland) and in Berlin and Königsberg (Germany), while, until recent times, there never was published a record of this disease, for instance, in Sweden, where the bothriocephalus is one of the most frequently found intestinal parasites. The first communication of this kind was made at the meeting of the Swedish Medical Association on the 14th of April this year by Mr. Bruhn-Tuhraeus, who reported two cases of bothriocephalus anaemia (*Hygieia*, May, 1896).

Another recent communication of that same disease is made by Mr. Babes, of Bucharest, who states that the bothriocephalus anaemia is not uncommon in Roumania.

The peculiar fact that this severe and characteristic disease seems not yet to be universally recognized, and therefore, no doubt, is apt to escape due attention in countries where it probably exists, may serve as an excuse for my reporting two cases of bothriocephalus anaemia which I happened to treat in the United States, although my notes are far from complete, as I then had no idea of publishing them.

In the winter of 1889, during a few months' stay in New York, I was one day called to see a countrywoman of mine, a workman's wife from Finland, twenty-nine years old, living in Harlem, New York. The patient had always enjoyed good health until, for the last few weeks, she had begun to feel weak and tired and to suffer from headaches and lack of appetite, which symptoms steadily increased until, for about a week before my visit, she had been unable to leave her bed.

I found the woman very weak, utterly pale, with that characteristic faint yellowness of the skin, the mucous membranes, and the conjunctivæ which at first sight makes it possible to distinguish pernicious anaemia from chlorosis as well as from those secondary anæmic conditions which are essential, for instance, to an ulcer or a cancer of the stomach or to consumption. Pressure on the sternum and the epigastric region was painful. A loud murmur was heard over the jugular veins, and also a soft murmur at the apex of the heart. There were no symptoms from other organs of the chest or abdomen, and there was no fever. In answer to my questions the patient said that she sometimes had passed tapeworms—not later, anyhow, than two years before.

Although I had no opportunity of making any microscopic examination either of the faeces or of the blood, I did not hesitate to prescribe a worm cure, besides some iron and arsenic pills, and told the patient's husband to report to me further about her. I did not hear anything more of her, however, until about six weeks later, when the woman called herself to tell me that she was in perfect health, having been able for the last week to do all her household work, even to scrub the floor. She looked strong and healthy, the color had returned to her cheeks, and her appetite was good. Quite a number of tapeworms had been expelled.

Another similar case came under my observation in Calumet, Michigan, in the month of June, 1895. The patient was a boy, twelve years old, who seven years before had immigrated with his parents—working people from Finland—and his four sisters and brothers. Both the parents and all the children had at times passed tapeworms, but were not known to have had any other illness. Once, a year before, the patient had suffered from a disease with symptoms similar to those which he was presenting now, but under the care of a physician had recovered after a few weeks' illness. Now again he had for some time felt weak and suffered from severe headache and dizziness. His appetite was completely lost and he had nausea after eating. Getting steadily worse, and at last unable to be out of bed because of the increasing weakness, he was brought to town for help, driven in a carriage for about ten miles.

On his arrival the patient was quite prostrated, was hardly able to answer questions, and complained of dizziness.

*Status Præsens, June 5, 1895.*—The patient is physically well developed, the subcutaneous tissues in good condition. The skin and the mucous membranes are utterly pale, and, like the conjunctivæ, slightly yellow. Over the jugular veins there is a loud murmur (*Venen-geräusch*). There seems to be some dilatation of the heart and a distinct murmur is to be heard both at the apex and at the base. The pulse is weak and soft, beats 130 in the minute. Temperature, 102°. Pressure on the sternum and the epigastric region is painful. No albumin in the urine. Bowels constipated. No symptoms from other organs.

The patient was put to bed immediately and Dr. Lowbaugh, of Osceola, and Dr. Bob, of Calumet, were called in to see him. Microscopic examination of the blood showed the number of the white corpuscles seemingly increased; the red corpuscles were greatly changed with respect to size and form.

As there was no passage from the bowels a glass rod was introduced into the rectum of the patient, and a sample of the faeces taken in that way and put under the microscope showed a few characteristic eggs of the *Bothriocephalus latus*.

6th.—Kamala with honey was prescribed. The bowels moved in the night, but no worms were passed.

7th.—The condition of the patient is alarming; he is quite apathetic; hardly answers questions; vomits repeatedly, and only reluctantly swallows some milk. The pulse beats 140, the temperature is 104°.

I had but very little hope of his recovery, but the next day there was an apparent change for the better. He was sitting up in his bed, willingly took some food, was smiling, and said that he felt better. There was a movement of the bowels, but no more worm eggs were found by microscopic examination.

From this time the patient improved steadily, the

appetite and the strength increased every day, and within a week he was able to drive home again, feeling fairly well, although still somewhat weak and pale. There was no more fever, there was no dilatation of the heart, and no murmur to be heard.

Besides the anthelmintic, iron and arsenic pills had been prescribed together with absolute rest in bed, and the patient was ordered to continue this treatment for at least six weeks.

I was informed by letter of the 29th of January, 1896, that the recovery had been uninterrupted and that the patient was still very well.

## THE COURSE AND PROGNOSIS OF ORBITAL TUMORS,

AS INFLUENCED BY SURGICAL OPERATIONS FOR THEIR  
REMOVAL.\*

By CHARLES STEDMAN BULL, M.D.

For some years past the attention of the writer has been turned to a consideration of the prognosis of orbital tumors, whether primary or secondary, as influenced by surgical interference, with special reference to the frequency of return of the tumor and the rapidity of its growth. Such knowledge as the writer may have gained on the subject has come almost entirely from his own experience; for ophthalmic literature is well-nigh silent on the subject. None of the older authors make any reference to the matter, though all advocate early and radical operative interference. Of the more modern writers on the subject, there are but two who touch upon the question at issue at all, but they speak with no uncertain emphasis. Michel, in his *Lehrbuch der Augenheilkunde*, second edition, 1890, says: "The prognosis in these cases is always bad, even after surgical interference. There is great danger of an unfortunate quick return locally of the tumor with extremely rapid growth. When the tumor proceeds from one or more of the facial bones in the vicinity of the orbit, the bony walls of the latter are certain to be involved and the growth is correspondingly rapid."

Lawford, in the *Royal London Ophthalmic Hospital Reports*, vol. xii, in reporting a case of tumor of the orbit, in which five operations were followed by a return of the growth with increasing rapidity, and after the last operation by the rapid death of the patient, says: "An early and radical operation is too frequently followed by a return of the neoplasm and its rapid growth."

In considering briefly the increased rapidity of growth of malignant tumors of the orbit after surgical operations for their removal, it will be convenient to divide these tumors into three classes—viz.: 1. Tumors which primarily were infra-ocular and which had invaded the orbit secondarily. 2. Tumors which origi-

nated in the orbit, whether in the cellular tissue or in the periosteum of its bony walls. 3. Tumors which originated in the bones or sinuses adjacent to the orbit and involved the orbit secondarily.

1. *Primary Intra-ocular Tumors, which Involve the Orbit Secondarily.*—When an intra-ocular neoplasm has penetrated the sclera and involved the orbital tissue, or when it has extended backward along the optic nerve, the prognosis is invariably bad. This condition is sometimes recognized before enucleation of the eye, but more frequently is not discovered until after enucleation has been performed. In such a case there is no certainty that an operation, no matter how radical, will remove all the diseased tissue; and in a very large percentage of cases the growth returns in the orbit itself, or in some one of the sinuses or spaces adjacent thereto. Even complete exenteration of the orbit and removal of its periosteal lining does not prevent this, once the orbital tissue is involved. Indeed, it has seemed to the writer that the removal of the periosteum from the orbit hastened the return of the growth by depriving the underlying bone of its protective envelope.

2. *Tumors which Originate in the Orbit.*—In this second class, primary orbital tumors, malignant in character, in which the eyeball remains intact, or is involved secondarily and late in the course of the disease, the same unfavorable prognosis as to return and rapidity of growth must be made. Even when the orbital tumor appears to be encapsulated, experience proves that there is no certainty that some germs have not been left behind. Moreover, malignant growths in the orbit are very rarely encapsulated.

3. *Extra-orbital Tumors originating in the Bones or Sinuses Adjacent to the Orbit, and involving the Orbit Secondarily.*—This third class of cases embraces the most serious and desperate of all. The cavities and bones usually involved are the sphenoid and ethmoid. The nature and origin of these growths may often be diagnosticated in the beginning, as soon as orbital symptoms arise, and sometimes even before any such symptoms present themselves. The prognosis in these cases must be put down as absolutely bad from the beginning. No matter where the origin of the growth, all the deep bones of the face and their communicating sinuses eventually become involved. By emptying the sinuses and extensive exsection of the bones diseased, we do not succeed in arresting the progress of the malady, and experience has taught the writer that every operation in these cases tends to increase the certainty of return and the rapidity of its growth, and in so far shortens the life of the patient. Each operation, being of necessity the more extensive and severe, saps the strength of the patient and weakens his powers of resistance.

The tendency of these malignant tumors of the orbit, whether primary or secondary, is to grow forward or outward rather than inward or backward, and this fact probably explains why patients affected with such

\* Abstract of a paper read before the American Ophthalmological Society, July 15, 1896.



tumors live as long as they do, and why they usually die from general exhaustion, rather than from extension of the growth to the brain. It is the exception when these tumors cause death by extension to the brain, whether through the roof of the orbit, or through the optic foramen, or through the sinuses at the apex of the orbit.

The tendency to extension outward and forward of these tumors may perhaps also explain the increased rapidity of their growth after exenteration of the orbit, or after the more radical operation of exsection of the diseased bones. The empty orbit or the cavity left in the face by the removal of the diseased bones are free spaces toward which there is no resistance to the extension of the neoplasm; while backward or upward its progress is hindered by a bony wall of varying thickness, in which absorption goes on slowly, even when the periosteum has been removed.

These brief remarks and the conclusions which follow are based upon the histories of thirty-six cases, all taken from the private practice of the writer, as it has been proved that patients in private practice can be more satisfactorily followed up than those in hospital practice. All these cases have been watched from start to finish by the writer; and the course of the disease and the results of operative interference may be read in detail in the accompanying histories of the cases. In a much larger experience, extending over a period of twenty-five years of hospital service, the same conclusions have been forced upon the writer.

*Conclusions.*—1. The prognosis of all forms of malignant orbital tumors, whether primary or secondary, is unfavorable; and if the tumor is primarily in one or more of the deep facial bones or their sinuses, the prognosis is positively bad.

2. Except in the case of encapsulated tumors of the orbit, surgical interference is almost invariably followed by a return of the tumor; and the growth of the secondary tumor is more rapid than that of the primary lesion. With each succeeding operation, the period of quiescence in the return of the tumor grows shorter, and the rapidity of the growth increases.

3. The patient's family, and in certain cases the patient himself, should in the beginning be told of the serious nature of the trouble, and be warned that complete removal of all the disease germs is a well-nigh hopeless task. The burden of the decision as to surgical interference must rest upon the shoulders of the patient.

4. Repeated operations in these cases undoubtedly shorten the life of the patient. While it is therefore our duty to operate in all cases in order to relieve severe or unbearable pain, we should be slow to operate merely for the sake of relieving temporarily physical disfigurement or deformity, especially if we are convinced that by so doing we shorten the life of the patient, even if that shortened life is rendered more bearable to him.

## THE TREATMENT OF DISEASES OF THE NOSE AND EAR WITH OXYGEN GAS.\*

By GEORGE STOKER, M.R.C.P.L.

PRESIDENT OF  
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LONDON.

SOME two years ago I made a discovery with regard to the curative effects of oxygen gas on wounds, ulcers, and suppurating surfaces when they were exposed to its influence. It was but natural that I should endeavor to apply these more general surgical results to those special conditions in which we are together interested, and it is to give you some of the results of those endeavors that I venture to ask your kind permission to read this short paper:

The cases I selected to treat with oxygen gas were (a) "ozana," (1) syphilitic, (2) chlorotic, and (b) "chronic suppurative disease of the middle ear."

The method of applying the treatment is as follows; and I mention it now as the application to both nose and ears needs only one description. The oxygen is contained in a wedge-shaped bag made of mackintosh. This bag is placed between two boards (pressure boards), such as are used with the oxyhydrogen light. From this bag a tube leads, which terminates in a nose or ear piece. There are two taps—a large one on the bag, for the purpose of filling it, and a small one to regulate the stream of oxygen during treatment. This bag contains one cubic foot of gas, or of gas and purified air mixed in equal quantities, and this amount should suffice for six hours' treatment. In the great majority of cases I use equal parts of oxygen and purified air. This latter is prepared by being pumped by means of a bellows or hand ball through two wash bottles, the first containing some water and the second Condé's fluid. The bottles are attached to the bag for this purpose, and when the bag is half full it is then detached from the bottles and filled up with oxygen. The bag being filled, we are then ready to begin the treatment. The nose piece is passed into one nostril, the other nostril being plugged with cotton wool; the patient is directed to breathe through the mouth, the taps are turned on, and the treatment is begun. In ear cases the only difference is that the terminal piece is placed in the external auditory meatus, and in case of either ears or noses it is desirable to have several different-sized terminals to fit different-sized orifices. The oxygen should be allowed to pass into either the nose or ear from three to six hours daily. In nose cases it is best to use it about half an hour to an hour at a time, giving intervals of rest between the times. If used for more than an hour in nose cases it is apt to cause headache. The only additional treatment is using warm water to cleanse the parts during the day; the necessity

\* Read before the American Laryngological Association at its eighteenth annual congress.

for doing so seldom or often will, of course, depend on the amount of the discharge, but it must not be done less than twice daily.

I now give the notes of four cases—i. e., two of "ozæna" and two of "suppurative middle-ear disease." These are typically bad cases, and seem, I consider, to amply illustrate the results of the oxygen treatment:

CASE I. *Syphilitic Ozæna*.—Mrs. P., aged forty years. Had suffered from syphilitic ozæna for five years. Most of the internal parts of the nose had ulcerated away. The cartilaginous septum and turbinals had quite disappeared, and the inner wall of the right antrum was perforated and in an active state of necrosis. The nose was full of scabs or crusts, and the horrible stench characteristic of the disease was only too apparent. In the end of August, 1895, the oxygen treatment, as before described, was begun, and was continued for a month. At the end of that time her confinement was approaching and she had to leave the hospital. When she left, the ozæna was completely cured, neither smell nor crusts being apparent. In January, 1896, her condition of "wellness" was still maintained. Early in March she returned to the hospital and the condition of the nose was: the left nostril remained quite healthy, but the necrosis of the inner wall of the right antrum had progressed and extended and given rise to ozæna, but only on that side and in near proximity to the diseased bone. After a few weeks of oxygen treatment the diseased bone separated, and the patient once more was quite free from symptoms of ozæna.

CASE II. *Chlorotic Ozæna*.—A. B., aged nineteen years, had suffered for several years from ozæna. There was the usual smell, accompanied by the formation of crusts. The patient suffered also from dysmenorrhœa. She was treated with oxygen gas, as in the former case, and in three days the smell had quite disappeared, and she left in three weeks' time completely healed. In this case a remarkable feature was the change of color of the scabs produced by oxygen; from being of a deep brown color they became in a few days quite white.

In reference to these cases, it is fair to note that they had both had prolonged and varied treatment before the oxygen was tried, and in both instances had resisted all treatment: and in the first case it is evident that the good effect of the treatment was and is permanent, so far as the soft tissues are concerned, and it was only the existence of necrosis that caused a recurrence of the ozænic symptoms.

I may here state that I am now using oxygen in cases of purulent discharge from the accessory nasal cavities—i. e., the antrum and the frontal and ethmoidal cells. So far, the results have been satisfactory, and I hope to report them to your honorable association on another occasion.

CASE III. *Chronic Suppurative Middle-ear Disease*.—A. L., a girl, aged nineteen years, had suffered for twelve months from chronic discharge from the left ear; she had occasional pain, and was very deaf on that side. The membrana tympani had suppurated away, all except the anterior superior segment. On April 18, 1896, the oxygen treatment was begun, half a cubic foot of oxygen being used at intervals of half an hour during the day. On the 22d of April the discharge had practically ceased and only a little flaky mucus came from

the ear on syringing. There was no purulent discharge to be found. At the end of a week she was discharged cured, and it still remains to be seen how permanent the relief given will be.

CASE IV. *Chronic Suppurative Middle-ear Disease*.—J. G. Several years ago she had an attack of scarlet fever, and the discharge began in the second week. In the fifth week inflammation and pain set up behind the left ear. The mastoid was opened and a drainage tube put in. Afterward a dark-colored offensive discharge was most profuse from both ears, and continued more or less till the patient came under my care in November, 1895. During those seven years many and varied forms of treatment were tried and carefully carried out, but without success. The patient was under the care of a well-known London specialist.

On November 9th the oxygen treatment was begun, and was carried out about four hours daily. The improvement set in at once, and the offensive smell and discharge disappeared during the first ten days. The following are the notes of the conditions present when I first saw the patient:

November 1st. Hearing distance, watch: right ear, two inches; left ear, ten inches. Right ear, lining of meatus swollen and boggy. Profuse and most offensive discharge and constant pain. Glands below the ear swollen and painful. Large perforation of membrana tympani.

19th. Oxygen treatment has been used for about four hours daily, at intervals. Meatus healthy, swelling disappeared. Discharge and smell almost gone.

December 18th. No pain, swelling, or discharge. Hearing distance, watch: right ear, two feet; left ear, two feet. The ear was syringed with warm water twice daily, no other treatment being employed.

All these cases speak for themselves, and I am grateful for being allowed to bring the knowledge of this system, that I have been fortunate enough to originate, before the notice of the American Laryngological Association, as I feel sure that in the great home of modern progress it will have a fair and exhaustive trial, and that its being a new system will not be any bar to its acceptance if, when it is weighed in the balance, it is not found wanting.

#### REPORT OF

#### A CASE OF GONORRHOEAL ENDOCARDITIS.

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It is now conceded beyond cavil that the *Gonococcus Neisseri* is the actual etiological factor in specific urethritis. The culture of this germ, and the production of gonorrhœa following its introduction into the healthy urethra without *lesio continui*, are facts which are no longer doctrinarian in import. Many of the visceral manifestations of specific urethritis have been demonstrated to be provoked by gonococcic metastases. This is true of the endocardium, pleura, and synovial membranes. It is more than problematical that the reported cases of multiple neuritis and dorsal myelitis sequential to gonorrhœa have been instigated by the

same cause. The question of mixed infection in the complications of gonorrhoea is in a measure solved by the accurate observations of Wertheim. The latter succeeded in obtaining pure cultures of gonococci in the pus of salpingitis and oophoritis. It can not be denied that other micro-organisms, notably those of suppuration, are concerned at times in the metastatic processes. Among the complications of gonorrhoea endocarditis is one of the most infrequent. Up to the present time but few authentic cases of gonorrhoeal endocarditis have been reported. Among the contributors of cases are Councilman, Winterberg, Schedler, Morel, Martin, Derignae, and notably Leyden. Among the cases reported, in most of them the endocarditis was preceded by gonorrhoeal rheumatism of the joints. All the cases occurred in male patients. The aortic valves were more frequently implicated than the mitral valve. Some of the cases ran a chronic course and terminated in recovery. Others presented the characteristics of malignant endocarditis and ended fatally. The endocardial complication in gonorrhoea may be a mere expression of pyaemic infection with localization of the septic material in the endocardium or dependent on unmixing infection from the gonococci alone. As a paradigm of pyaemic infection, the case reported by His may be cited. In this case septic thrombi had formed in the veins of the prostate and in the pubic plexus, leading to general infection and malignant endocarditis. Leyden, Wilms, and Councilman report cases of endocarditis where no organism other than the gonococcus was present in the endocardial lesions. The following case, which was seen in consultation with Dr. Dudley Tait, of this city, is presented as a contribution to the literature on gonorrhoeal endocarditis. It is to be regretted that no necropsy was permitted, although the tableaux of symptoms leave no doubt as to the correctness of the clinical diagnosis:

The patient, seventeen years of age, had been treated for about six weeks before coming under observation for pyuria, presumably of renal origin. The pus continuing in the urine despite remedial measures, other counsel was sought by the parents of the patient. It was elicited on inquiry that the patient had contracted gonorrhoea, which fact, prompted by fear, he did not communicate to his attending physician. This was his second infection, which remained untreated for about six weeks, up to the time that he came under observation.

An examination of the patient showed no disease of the thoracic viscera. There was an anterior and posterior urethritis with gonorrhoeal cystitis. There was no implication of the kidneys. No kidney elements were found in the sediment of the urine. The albumin present in the urine could be accounted for by the presence of the pus, as was conclusively shown by the accurate count method of Posner. Only the gonococci were demonstrated in the urethral pus. The urethra was narrowed four inches from the meatus, which fact necessitated the use of sounds to permit the passage of a moderate-sized soft-rubber catheter for washing out the bladder. Daily lavage of the bladder and urethra with a solution of permanganate of potassium was followed by a complete

disappearance of pus from the urine. The bladder symptoms likewise receded and the urethral discharge was reduced to a minimum. The latter at this time still contained gonococci, although diminished in number. On the fourteenth day, dating from the time he first came under observation, the patient had a chill, with a temperature of 103° F. Fulminating muscular pains were felt in the muscles of the shoulders and abdomen, and the patient vomited considerably. On this day an ill-defined tendosynovitis of the right tendo Achillis was present. On the following day the symptoms became aggravated. Tachycardia became distressing and a feeble systolic murmur over the aorta was heard; the area of superficial cardiac dullness was increased toward the right side. Petchial spots appeared all over the body and the exanthem was not unlike that of measles. On the subsequent day the patient felt a sudden pain in the region of the spleen. This organ was found to be enlarged and very painful on pressure (haemorrhagic infarction). The temperature persisted (104° F.), the sensorium became clouded, delirium was present, and the systolic murmur over the aorta became louder.

Symptoms on the following day: Petchia had developed into pustules and the exanthem resembled variola. Five large emboli were seen in the digital arteries at a point corresponding to the first phalanges of the third and little fingers; the terminal phalanges of the latter were gangrenous. On this day the patient died.

The character of the disease was unmistakable, although the absence of a post-mortem examination detracts materially from the scientific value of the case. The essential features of this case may be summarized as follows: Gonorrhoeal endocarditis, following an untreated specific urethritis at a time when the symptoms of the urethral lesion were retrogressing. The endocarditis was not preceded by gonorrhoeal rheumatism. The previous history of the patient was one of perfect health and absolute integrity of the heart. The absence of organisms in the urethra other than the gonococci warrant the assumption that the latter were alone concerned in the metastatic endocardial process.

431 GEARY STREET.

## THE RELATION OF ACUTE DISEASES OF THE NOSE AND THROAT TO DISORDERS OF DIGESTION.\*

By MOREAU R. BROWN, M. D.,

CHICAGO.

CLINICAL experience demonstrates that there are certain well-defined relations existing between acute inflammatory conditions of the nose and throat and other disordered organs of the body. In some cases these relations are easily explained; while in others they are shrouded in mysteries which pathology has as yet failed to unfold, and which all attempts to account for can be, at present, but matters of theory, not based on the result of completed scientific investigation. Not that

\* Read before the American Laryngological Association at its eighteenth annual congress.



the pathologist or laryngologist has been derelict in searching for the etiological relations, but rather that the limits of science have precluded their discovery. The connection between acute inflammation of the upper air-passages and disorders of digestion, although a matter of clinical observation, is no exception to this statement, and the surprising fact is that there is such a scant amount of literature bearing on the subject.

Bosworth, in his work on Diseases of the Nose and Throat, briefly refers to the changes occurring in the pharyngeal mucous membrane in stomacic disorders, and further calls attention to chronic inflammation of the upper air-passages as being an important etiological factor in acute inflammation of the same region. He considers the involvement of the pharynx in gastric disorders as due to the fact that the pharynx is a part of the digestive tract, being the point where the air-passages cross it, which may, in some cases, account for the extension of the inflammatory process.

In his Lettsomian Lectures, T. Lauder Brunton refers to stomach cough as being due to mild inflammatory changes in the upper air-passages, plus the digestive disturbances. He cites a case of stomach cough wherein the pharynx was decidedly hyperæmic, and although no laryngeal examination was made, it was concluded from the symptoms that the larynx was similarly involved. The cough and inflammation failed to respond to treatment until a blue pill had been administered. The following case, in my own practice, serves to illustrate the condition rather more forcibly:

Mr. —, aged about forty-five, restaurant keeper by occupation, a healthy, robust-looking man, fond of rich food, consulted me first about five years ago for a rather severe attack of acute inflammation in the upper air-passages (nose, pharynx, and larynx) accompanied with asthma. As a history, he stated that such attacks were generally preceded by gastro-intestinal disorders, and a few days previous to the present attack he had suffered considerable digestive disturbance, such as loss of appetite, disgust for food, nausea, headache, abdominal distress and pain, eructation of gas, constipation, and mental depression. The treatment directed to the inflammation of the upper air-passages was carefully carried out for a short time, but failed to give relief until a saline laxative, followed by such treatment as was calculated to restore the digestion, was ordered and taken. Afterward, appropriate treatment, carried on for some time, checked further asthmatic attacks, but I have seen him a few times since with acute inflammation of the upper air-passages which responds readily to remedies directed to the digestive organs.

I have searched the medical literature within my reach for other authorities bearing on this subject, and I am able to give the following reports:

Edema of the larynx in the angeioneurotic, connected with gastric disturbances generally, is mentioned by Collins, Osler, Lovett, and also by Pryor (*Med. Record*, July 28, 1894).

Nogano (*Currier méd.*, Paris, September 23, 1893)

records a case of hæmorrhage of the larynx in a forty-five-year-old man who had suffered from cirrhosis of the liver and cardiac disease.

Cackle (*Medical Times and Gazette*, August 4, 1884) records a case with symptoms resembling those of laryngeal phthisis. Later two attacks of unconsciousness followed in quick succession, the latter being fatal. At the autopsy, latent hepatic abscess was found, also a small ulcer of the left vocal cord, the nature of which was not stated. No signs of tuberculosis were discovered.

Ed. Löri (*Die durch anderweitige Erkrankungen bedingten Veränderungen des Rachens, des Kehlkopfs und der Luftröhre*, Stuttgart, 1885) thinks that "gastro-intestinal catarrh may be either the cause or the result of chronic throat and laryngeal catarrhs." He mentions also hæmorrhagic affections of the larynx in liver cirrhosis and echinococcus.

Ed. Löri (*Jahrbuch für Kinderheilkunde*, xxi, 1884; *Centralblatt für Laryngologie*, i, 360; *Orosi Hetilap*, 1884, No. 12; *Pest. med. Presse*, No. 31), speaking of gastric complications of laryngeal disease in children, says: "Laryngeal disease may affect the stomach by continuity, by swallowing secretions of ulcerated sores, cankers, etc., and gastric disturbances are often produced in a reflex way from the larynx. Especially do we frequently observe meteorism and anorexia with inflammatory disease of the posterior laryngeal walls, and also gastric dilatation and vomiting."

Turck has also recently demonstrated the bacterial origin of stomacic disorders from nasopharyngeal infection, finding similar micro-organisms in both regions, and the former relieved after relieving the latter. Further bacteriological research may be able to demonstrate the reverse of this position, and establish that stomach disorders are causal factors of laryngeal inflammations, though, as far as I can learn, no one has undertaken the task.

Steffin (von Ziemssen's *Cyclopadia*) says spasm of the glottis may be favored by elevation of the diaphragm, owing to overfilling of the stomach, or by overdistention of the intestines by fecal masses, or by serous swelling of the liver. Among the conditions found present in spasm of the glottis are swelling, and yellow or yellow-gray color of the liver, and a considerable deposit of fat within its cells.

Ariza (Madrid, Laringismo gastrico, *Centralblatt*, ii, 446; *El Distancier*, No. 44, p. 211, May 20, 1885) cites a case (Virchow's *Annalen*) of aphonia from indigestion relieved by an emetic. He distinguishes three varieties of laryngeal disturbance from gastric disorders:

1. Laryngeal hyperæsthesia, with normal aspect of the fauces and larynx, the patients complaining of burning sensations, pain, etc. All these patients suffer from dyspepsia. He reported cases at the Laryngological Congress at Milan.

2. "Laringismo gastrico plastico." The vocal cords and surroundings are hyperæmic and painful, and vary

with the gastric disorder. This form especially occurs with chronic gastric disease.

3. "Laringismo gastrico paralitico." He says that he can not explain the aphonia and dysphonia in cholera cases, except by a temporary reflex paralysis of the larynx. He finds, however, in the literature, no laryngoscopic observations, and thinks they would be difficult to make. Kispert, who abstracts his paper, says that Matterstock made some good observations of this kind in the Würzburg epidemic, and found this paralysis frequent, especially on the left side.

So much for authorities. The explanation of the conditions of the simultaneous occurrences is not easy, but the following may be suggested: In œdema of the larynx, occurring during the course of liver disorders, it is apparent that we must look to the obstruction of the portal circulation as a cause, and in the inflammation produced by the imbibition of alcohol rather to the venous stasis which follows its use. This is particularly the case in œdema of the upper air-passages ensuing upon a debauch, as shown by the rapidity with which it disappears on taking further liquor early the next day, and the subsequent increase of the œdematous condition, or by the more rapid recovery following an evacuation of the gastro-intestinal tract.

In acute catarrhal inflammation of the nose and throat, supervening on disorders of digestion, we have an entirely different element to deal with. In offering an explanation for this condition we must largely theorize. It has been, in times past, the custom to call to our aid the old theory of reflexes, and it may not be unreasonable to suppose that these views are not entirely without foundation. It is a recognized fact, as so aptly put by M. Gross (*New York Medical Journal*, May 4, 1895), that "every affection of the stomach is reflected back on the other organs; and inversely, every disorder of the organs reacts upon the stomach." Yet in the present day of bacteriological research, when the micro-organism theory of inflammation is generally recognized, we must agree with Bosworth, who, in a paper read before this association last year, states: "I think that as we become more familiar with the disorders of the upper air tract we shall in many cases be able to abandon this somewhat indefinite and obscure term 'reflex,' and adopt the theory that many of the so-called 'reflexes' are the direct result of morbid action upon either the nerve centres or the tissues involved in the inflammatory process" (*New York Medical Journal*, November, 1895, page 635).

What bacteriological research has failed to fully establish is demonstrated clinically—namely, that an acute inflammation of the upper air-passages will create disorders of digestion by direct infection through the mass of muco-purulent secretion, loaded with bacteria, which finds its way into the stomach. But, as to the reverse process, is it probable that the upper air-passages become inoculated directly by the stomach contents?

The irritation of the larynx and pharynx, or, less often, the nasopharynx, from the eructation of the contents of the stomach, is to be ascribed more to the direct irritant effect of the secretion than to inoculation. Yet the irritating effect may be so intense and prolonged that acute inflammation follows. In this case it may be that the secretion furnishes a proper soil for the bacteria which light up the inflammation.

J. E. Free (*New York Medical Journal*, December 7, 1895) states: "If there is a morbid process at work in the stomach, there will be established in it colonies of bacteria in abundance, the toxins may be absorbed, and nourishment to the tissues thus contaminated, and every tissue of the body compelled to feed on this contaminated blood."

Warren, in his *Surgical Pathology* (page 122), says: "Van Buren explains catching cold 'by arrest of the function of the skin as an emunctory, whereby certain effects, and presumably noxious materials which should be eliminated, are retained and act as blood poisons.' This view of auto-infection is used to explain any febrile and inflammatory disturbances due to ptomaine absorptions arising from gastric and intestinal disorders."

We know that the presence in the circulatory blood of certain toxic products of some micro-organisms favors the development of foci of inflammation, and the site of a chronic inflammation seems sufficient to predispose to infection. Orloff (*Materialien zur Frage über die Eintrittswege der Mikroben in den thierischen Organismus*, *Centralblatt f. Bacteriologie u. Parasitenkunde*, Bd. cxi, No. 15) fed pure culture of staphylococcus to six healthy animals. He then made a subcutaneous fracture in all six animals, and found that suppuration ensued at the point of fracture. This demonstrates that bacteria and toxins in the stomach will infect any weak point in the system. We may therefore surmise that in this manner the nose and throat may be infected through disorders of digestion. Another explanation of this condition might be that digestive disorders would lower the vitality to such a degree that the patient would become more liable than the healthy to attacks of acute inflammation, and this would be more apt to occur at points weakened by chronic inflammatory changes, such as we find in the upper air-passages of the majority of individuals.

There is one disease of the gastro-intestinal tract in which laryngeal complications have been extensively studied, and while typhoid fever may not be considered as falling within the scope of my subject, yet the inference is legitimate that if typhoid fever does produce laryngeal complications, so also may gastritis have an analogous influence on the larynx and other upper air organs.

Laryngeal complications occurring in typhoid fever have attracted no little attention, and literature abounds with reports of cases and theories advanced as to the relation they have to each other. The laryngeal changes

vary from a slight degree of hyperæmia to rather extensive loss of tissue. In some cases there is what appears to be a simple catarrhal laryngitis, or there may be œdema, infiltration of tissue, ulceration, or perichondritis. The larynx is, at times, left in a state of extensive deformity. The changes may occur at almost any stage of the typhoid period, occasionally ushering in the disease. Voltolini (*Archives of Laryngology*, vol. i) describes a case where a patient, after exposure to wet and cold, had a severe laryngitis; in the course of a few days regular typhoid fever set in, and, running its usual course, the laryngeal condition progressed rapidly to the stage of ulceration.

The laryngeal complications seem to bear no relation to the typhoid symptoms. The deeper tissues are seldom involved in the early stages of the disease; ulceration, œdema, and perichondritis occur in the latter stages or during convalescence, sometimes as late as two months after the onset of the disease (*Union méd.*, March 10, 1892). As may be surmised, the symptoms may be serious from stenosis, or from the dangers of necrosis. The condition, in some cases, may result in loss of life; tracheotomy or intubation may be required; and the resulting deformities may necessitate the indefinite retention of the tube. The lesions generally involve the epiglottis, arytenoids, and cricoid cartilages.

Lucatela (*Gazzetta degli Ospedali*, 70, 132) and others report finding Eberth's bacilli in the larynx in fatal cases. Brieger and Fränkel failed to demonstrate the presence of typhoid bacilli in these laryngeal ulcers (Kanthack and Drysdale, *Journal of Laryngology*, April, 1896), but the weight of evidence seems to favor the specific origin of laryngeal ulcers in typhoid. Taken alone, the argument from analogy is not convincing, but it seems to be plausible enough to infer that if the typhoid bacilli can infect the larynx, so may other forms of bacilli, which have their origin in the stomach, be able to invade and infect, likewise, the upper air-passages.

To sum up the subject, then, I would say that no proof has yet been presented of the direct causation of acute inflammatory processes in the upper air-passages by stomach disorders; but that clinical observation is abundant in favor of such causation, and that the hope may be entertained that the bacteriologists will soon be able to supply direct proof.

## Therapeutical Notes.

### The Treatment of Asthma Apart from the Attacks.—

In the *Revue internationale de médecine et de chirurgie* for July 25th we find an abstract of an article by M. Barié (*Thérapeutique appliquée* de Robin, 1896, fasc. viii) in which he gives the following formulæ for the treatment of asthma apart from the attacks:

1. Duclos speaks very highly of flowers of sulphur in

daily amounts of from eight to fifteen grains, to be taken before breakfast. The dose is to be continued for twenty consecutive days in every month for a period of six months, then for ten days of every month for a period of one or two years. This treatment appears to be more applicable to catarrhal asthma.

2. Arsenical preparations are appropriate in cases where the patient suffers with both herpes and asthma; the arsenic may be given in the form of Fowler's solution, in doses of from two to four drops at meals; in the form of granules, each containing 0.015 of a grain of arsenous acid, of which four a day may be taken; or in a liquid form as follows:

℞ Distilled water..... 9 ounces;  
Sodium arseniate..... 1.5 grain.

M.

A dessertspoonful of this is to be taken just before the principal meal.

3. The alkaline iodides are very efficacious. Green prescribed potassium iodide as follows:

℞ Decoction of polygala water (25 grains  
to 15 ounces of water)..... 3 ounces;  
Tincture of lobelia,  
Camphorated tincture of } of each..... 375 grains;  
opium,  
Potassium iodide..... 120 "

The dose is from two to three dessertspoonfuls a day.

The following antasthmatic elixir was formulated by Aubrée:

Take thirty grains of polygala root and four ounces of water; boil it until the quantity is reduced to two ounces. Filter this decoction and add the following:

Potassium iodide..... 225 grains;  
Syrup of opium..... 3.75 ounces;  
Brandy..... 2 "  
Tincture of cochineal..... enough to color.

Three dessertspoonfuls of this mixture are to be taken every day.

M. Huchard recommends this formula, which he has used for a long time:

℞ Distilled water..... 9 ounces;  
Potassium iodide..... 225 to 300 grains;  
Tincture of polygala, } of each.. 75 "  
Tincture of lobelia, }  
Extract of opium, } of each. 1.5 grain.  
Extract of hyoscyamus, }

M.

The dose is two dessertspoonfuls a day.

M. G. Sée thought that, in order to obtain a curative effect, the employment of an average dose of from thirty to forty-five grains of potassium iodide was necessary for months. M. Barié himself prefers the iodides in weaker doses as follows:

℞ Distilled water..... 3 ounces;  
Sodium iodide..... 30 grains.

M.

From two to three teaspoonfuls of this solution are to be taken every day.

M. Barth approves of the following formula:

℞ Distilled water..... 6 ounces;  
Potassium iodide, } of each 150 grains;  
Tincture of hyoscyamus, }  
Extract of opium..... 8 "

M.

A dessertspoonful of this mixture is to be taken on going to bed. In regard to M. Barié's formula, says the writer, it should be remarked that sodium iodide is less active than potassium iodide in asthma. In Barth's formula the quantity of the extract is larger, but it gives better results when administered in smaller quantities, such as three grains.



In order to avoid the disagreeable taste of the iodides in the liquid preparations, M. Barić has devised the following, which keeps perfectly:

- R Sodium or potassium iodide..... 2.5 grains;  
Bordeaux turpentine..... 0.75 grain;  
Crude opium..... 0.2 “

M.

This quantity makes one pill, and three such pills, coated with balsam of Peru, are to be taken every day.

It must be borne in mind, says the writer, that the iodide treatment is badly tolerated, and that, according to Trousseau and Potain, it rather aggravates the disease, especially in nervous persons. In regard to mineral waters, Pidoux recognized three elements in asthma: Nervous, catarrhal, and organic, and, according to the predominance of one or the other, arsenical, sodium-bicarbonate, or sulphur waters are indicated.

Finally, M. Huchard expresses the opinion that asthma, essential or nervous, is generally the result of an intoxication, which is nearly always alimentary. The diet of an asthmatic person, he says, is of the greatest importance, perhaps the principal point in the treatment of asthma apart from the period of the attacks. He recommends milk and vegetables, also a very small quantity of well-cooked meat.

**The Treatment of Stomatitis.**—In the *Nord médical* for August 1st the following formulae for various forms of stomatitis may be found:

*Aphthous Stomatitis.*—The ulcerations may be touched with a piece of absorbent cotton saturated with one of the following solutions:

1. Sodium salicylate..... 300 grains;  
Distilled water..... 3 ounces.
2. Sodium borate..... 45 grains;  
Sodium salicylate..... 75 “  
Tincture of myrrh..... 60 “  
Syrup of mulberries, } each..... 225 “  
Distilled water, }
3. Sodium chloride..... 90 grains;  
Cherry-laurel water..... 225 “  
Syrup of althea..... 375 “  
Decoction of poppy seeds..... 6 ounces.

The patient should take only boiled or sterilized milk.

*Erythematous Stomatitis.*—If the inflammation of the mouth is connected with the eruption of the teeth, frequent rinsing and spraying should be practised, especially after meals, with boric-acid water or the following solution:

- Sodium borate..... 30 grains;  
Sodium bicarbonate..... 60 “  
Distilled water..... 3 ounces.

If the inflammation appears during the course of the infectious disease, the following may be used:

- Boric acid, } each..... 30 grains;  
Potassium chloride, }  
Lemon juice..... 225 “  
Glycerin..... 300 “

Frequent washings with Vichy water or Vals water are also very good.

*Thrush.*—The prophylactic treatment consists in carefully cleansing the infant's mouth after each nursing with Vichy water. The curative treatment includes the same method of washing, and besides, frequent applications of the following:

- Sodium borate, } each..... 150 grains;  
Sodium bicarbonate, }  
Glycerin..... 600 “

At the same time it is well to institute gastro-intes-

tinal antiseptics, for which the following potion will be found useful:

- Bismuth salicylate, }  
Benzo-naphthol, } each..... 15 grains;  
Sodium bicarbonate, }  
Syrup of orange flowers..... 300 “  
Orange-flower water, } each..... 900 “  
Linden water, }

*Ulcerative Membranous Stomatitis.*—Potassium chloride is preferable in this form of stomatitis; it may be prescribed internally and externally. For the former, thirty grains a day may be given to a child from five to ten years of age, as follows:

- Potassium chloride..... 30 grains;  
Syrup of raspberries..... 300 “  
Julep of gum..... 2.5 ounces.

A dessertspoonful of this mixture is to be given every two hours. The following solution may be used for lavage and irrigation:

- Potassium chloride..... 75 grains;  
Honey of roses..... 450 “  
Distilled water..... 6 ounces.

To paint upon the ulcerations, the following is recommended:

- Potassium chloride..... 60 grains;  
Rose honey..... 150 “  
Glycerin..... 300 “

In rebellious cases tincture of iodine may be used in the following manner:

- Tincture of iodine..... 150 grains;  
Glycerin..... 300 “

Permanganate of potassium may be used as follows:

- Potassium permanganate..... 8 grains;  
Distilled water..... 2 ounces.

*Gangrenous Stomatitis.*—The local treatment consists in preventing the progress of the disease and in disinfecting the gangrenous region. The diseased parts should be cauterized with Paquelin's cautery, or with acid nitrate of mercury, or with pure nitric acid; in doing this the tongue and the teeth should be protected as much as possible. After cauterization, dry chloride of calcium may be applied and allowed to remain on for a few minutes and afterward thoroughly washed off. This treatment should be practised twice a day, also bathing three times a day with a strong decoction of cinchona. It is well, too, to touch the diseased parts several times a day with the following preparation:

- Naphthol..... 150 grains.  
Sodium sulphocinate..... 2.75 ounces.

During the interval the mouth should be washed out with water to which the following solution has been added in the proportion of a teaspoonful to a glass of water:

- Sodium bicarbonate, } each..... 15 grains;  
Saccharin, }  
Salicylic acid..... 60 “  
Alcohol..... 6 ounces.

It is very important to continue general treatment: the patient's strength should be kept up by the employment of nourishing food, such as milk, cream, meat soups, concentrated bouillon, and wines; extract of cinchona and cognac may also be used.

**The Vomiting of Appendicitis.**—The *Revue inter-nationale de médecine et de chirurgie* credits Pick with this formula:

- R Menthol..... 8 grains;  
Cognac..... 1½ oz.;  
Laudanum..... 5 drachms.

M. S.: Take from 10 to 20 drops several times a day, in a little sweetened water.

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A GREAT PHYSICIAN OF THE SEVENTEENTH  
CENTURY.

It is good to see some attention given now and then to the memory of famous physicians who flourished two or three hundred years ago. Two examples have lately come to our notice. One of them is a series of articles on *The Therapeutics of the Old Masters*, by Dr. Fiesinger, published in the *Gazette médicale de Paris*. In the article published in that journal for August 1st he gives an account of Guillaume Baillou. The other, the only one that we have space to consider at greater length, is a short notice, in *Lyon médical* for August 9th, of a book on Baglivi, "the Sydenham of Italy," by Dr. Paul Fabre.

Although, says Dr. Fabre, Baglivi's name is not connected with any of the grand discoveries which immortalize man, his reputation has been perpetuated for nearly two centuries, not only in the medical schools, but in the profession. Baglivi, he says, had the true clinical method, which consisted in observing Nature simply without any preconceived notions or theoretical ideas, and conducting himself in accordance with this wise method of procedure.

He was born in Raguse, the capital of Dalmatia, on the 8th of September, 1668. His family, it is said, was of Armenian origin, but they moved to Italy and established themselves in Lecce, in Apulia. Perhaps, says the writer, there may be found in these conditions of atavism the explanation of the admirable readiness and ease with which he expressed his ideas which constituted the charm of his works.

After having received his classical education under the direction of a Jesuit, Michel Montaggio, Baglivi pursued his course of medical studies at Salerno, Padua, Bologna, and Naples. Afterward he returned to his native country, and visited in turn Venice, Florence, and Pavia, and finally settled in Rome, where he attained both wealth and fame. From the time of his arrival he connected himself with the two celebrated anatomists Pacchioni and Lancisi; he also met Malpighi, who was old and in bad health, and when Malpighi died Baglivi took charge of the autopsy. Afterward, according to the customs of the times, he conducted the autopsies of several cardinals and other dignitaries. Pope

Innocent XII, who esteemed him very highly, resolved to keep him indefinitely in Rome, and, in order to create a place which would be acceptable to a man of his worth, he removed Lancisi from the chair of anatomy and made him professor-in-chief of the medical clinic. The vacant place was then open for competition, and Baglivi obtained it after a very brilliant trial. Thus at the age of twenty-eight he found himself in possession of one of the finest scientific positions in the world, and in a very short time he justified the confidence that had been placed in him. In the same year he published the most important of his works, on the practice of medicine, and, says M. Fabre, it may be said that such a work on the art of healing had never been written before. Baglivi showed in these pages an extraordinary intellectual maturity, and the book excited a veritable enthusiasm. It was such a safe guide to good and sound practice as had never been known before. All the efforts of the young physician tended simply to restore the art of healing according to the precepts of Hippocrates, to profit by the experience of centuries, to free medical practice from hypotheses and theories which, each day, sprang into existence and vanished often after deluding the most capable men in the profession. This was the reason why he made closely observed facts the immutable basis of all rational medicine, and it is not surprising, says M. Fabre, that he was a believer in the theory of expectation in acute diseases and the declared enemy of revulsion by fly blisters and other violent medication.

Placed at the head of a scientific movement of his time, Baglivi enjoyed many honors. He was correspondent of the most celebrated academies, many pupils thronged to his lectures, and his patients included persons of the highest class. Unfortunately, his days were numbered. At the beginning of the autumn of 1705 he was attacked with an affection of the abdomen accompanied by ascites, to which he succumbed, after suffering a long time, on the 17th of June, 1707, at the age of thirty-eight.

THERAPEUTICAL AND PATHOGENIC PROPERTIES  
ATTRIBUTED TO THE RÖNTGEN RAYS.

PROFESSOR RÖNTGEN's great discovery was promptly followed by the conjecture that the X rays might prove to have remedial properties, but the notion was practically abandoned very speedily. Still, a French physician has recently reported a case of malignant disease in which, as he believes, the rays reduced the size of the morbid growth, although they seemed not to exert the least influence in warding off the fatal termination of the case.

On the other hand, some observers have lately put on record certain pathological phenomena that are thought to have been produced by the rays. So far as our knowledge goes at present, these morbid results seem to affect chiefly if not exclusively the skin and its appendages.

Dr. Marcuse (*Deutsche medicinische Wochenschrift*, July 23, 1896; *British Medical Journal*, August 15, 1896) relates the case of a lad, seventeen years old, on whom he experimented with the Röntgen rays once or twice a day for a period of four weeks; the sittings lasting from five to ten minutes, and longer when the chest was being illuminated. Hittorf's tube was sometimes placed close to the body and never more than eight or ten inches away from it. The heat from the tube is said to have been very slight. The lad was completely clothed when his head was undergoing examination, and wore his shirt when his chest was subjected to the apparatus.

At first a slight diffuse redness was observed in one half of the face, especially above the ear, with some desquamation. Subsequently there was a sharply defined area above the ear where the hair was very thin. The hairs could be plucked out without pain, and showed signs of degeneration—in short, there was incipient alopecia. There was pronounced injection of the conjunctiva of the eye that was situated on that side of the face that was affected. On the back there was a space "as large as a plate" over which the epidermis was completely separated, and the exposed corium showed hemorrhages and exudation. The patch was quite tender, but there had been no pain until shortly before the lesions were noticed. There were similar changes, but not so advanced, over a space of about the same size on the front of the chest. The dermatitis resembled that caused by a burn.

From other sources we hear of loss of the nails as a result of exposure to the X rays, and in the *Lancet* for August 15th Mr. William Rushton has a letter full of ingenious suggestion in which he cites Dr. Robert L. Bowles as having found that reflected luminous, or photochemical, rays, as well as the Röntgen rays, penetrate into the deep tissues and produce great and important changes. Mr. Rushton conjectures that ordinary sunburn, freckles, and the like are due to penetration by rays of light rather than those of heat. Evidently we have yet much to learn about the Röntgen rays.

### MINOR PARAGRAPHS.

#### THE STIGMATA OF DEGENERATION.

An article with this title, by Dr. Frederick Peterson, appeared in the July number of the *State Hospitals Bul-*

*letin* and has now been reprinted in pamphlet form. It deals chiefly with anomalies of the face, the teeth, the palate, the tongue, the eye, the ear, the limbs, the genitals, the skin, the motor function, the sensory function, speech, and the instincts or appetites. It is illustrated with a number of good cuts and shows a great amount of careful study on the part of the author.

#### COMPULSORY VACCINATION IN GREAT BRITAIN.

A ROYAL commission on vaccination which has been at work for seven years is on the point of making its report, which is said by the *Lancet* to contain a unanimous recommendation that amounts to an abolition of the compulsory clauses of the vaccination law. In our opinion, this action might have been taken long ago with advantage. The Anglo-Saxon spirit rebels against compulsion in such a matter, and doubtless the enforcement of the clauses alluded to has favored the antivaccination agitation.

#### THE ROYAL VICTORIA HOSPITAL, MONTREAL.

We learn by the *Montreal Gazette* that Lord Mount-Stephen and Sir Donald A. Smith, the founders of the hospital, have lately endowed it with securities of the par value of \$800,000, which it is expected will yield an annual income of \$40,000. To this fund is to be added the sum of \$250,000 remaining from the original gift of \$1,000,000 for construction and equipment.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 25, 1896:

DISEASES.	Week ending Aug. 18.		Week ending Aug. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	56	11	25	6
Scarlet fever.....	11	2	18	2
Cerebro-spinal meningitis.....	0	0	1	1
Measles.....	47	6	53	5
Diphtheria.....	97	15	89	15
Tuberculosis.....	103	122	190	93

**The Neurological Section of the Pan-American Medical Congress.**—Dr. C. H. Hughes, honorary president of this section, is sending out the following invitation to the neurologists of the United States: "Can I rely upon you for a paper or subject of discussion for the Pan-American Medical Congress, to be held in the City of Mexico, November 16th, 17th, 18th, and 19th proximo? I have just been informed, rather tardily I think, of my selection as honorary president of the Section of Neurology and Psychiatry. The meeting promises to be an exceedingly profitable and agreeable one, socially and scientifically. We should make the best showing we can for American psychiatry and neurology. You can materially help in this laudable direction. Will you give me the promise of a paper and of your presence on the interesting occasion? If so, please indicate on the inclosed your intention to be present."

**A New Edition of Gray's Anatomy.**—It is announced by the publishers, Messrs. Lea Brothers & Co., that a revised edition of Gray's *Anatomy*, with several sections entirely rewritten and with many new engravings, will be published on the 1st of September.

**The Coney Island Hospital.**—An effort is being made in Brooklyn to equip the old Oceanic Hotel as an emergency hospital.



**Change of Address.**—Dr. S. Dana Hubbard, to No. 143 West One-hundred-and-third Street, New York.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 16 to August 22, 1896:*

MCELDERRY, HENRY, Major and Surgeon. The leave of absence granted him is extended two months.

A board of medical officers, to consist of BACHE, DALLAS, Colonel and Assistant Surgeon General, FORWOOD, WILLIAM H., Lieutenant Colonel and Deputy Surgeon General, HUNTINGTON, DAVID L., Lieutenant Colonel and Deputy Surgeon General, GANDY, CHARLES M., Captain and Assistant Surgeon, and REED, WALTER, Major and Surgeon, is constituted to meet at the Army Medical Museum Building, on Wednesday, September 23, 1896, at 10 o'clock A. M., for examination of candidates for admission to the Medical Corps of the Army.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 22, 1896:*

MCCORMICK, A. M. D., Passed Assistant Surgeon. Detached from the U. S. Steamer Bancroft and ordered to the Naval Academy.

SHIPP, E. M., Passed Assistant Surgeon. Detached from the U. S. Steamer Monongahela and ordered to the U. S. Steamer Bancroft.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Fifteen Days ending August 15, 1896:*

HUTTON, W. H. H., Surgeon. Granted leave of absence for twenty days from August 23, 1896. August 13, 1896.

SAWTELLE, H. W., Surgeon. Granted leave of absence for thirty days from August 23, 1896. August 13, 1896.

BANKS, C. E., Surgeon. To assume temporary command of the service at Vineyard Haven, Mass., for thirty days August 13, 1896.

BROOKS, S. D., Passed Assistant Surgeon. To assume temporary command of the service at Cleveland, Ohio. August 8, 1896.

WOODWARD, R. M., Passed Assistant Surgeon. Granted leave of absence for thirty days from August 13, 1896. August 11, 1896.

GREENE, JOSEPH B., Assistant Surgeon. Granted leave of absence for twenty-three days from September 14, 1896. August 13, 1896.

#### **Society Meetings for the Coming Week:**

**TUESDAY, September 1st:** New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Franklin (quarterly), Herkimer (semi-annual), and Niagara (Lockport—quarterly), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

**WEDNESDAY, September 2d:** New York Academy of Medicine (Section in Public Health); Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Bridgeport, Conn., Medical Association.

**THURSDAY, September 3d:** New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia; Cuyahoga, Ohio, County Medical Society.

**FRIDAY, September 4th:** Practitioners' Society of New York (private); Baltimore Clinical Society; St. Louis Academy of Medical and Surgical Sciences.

**SATURDAY, September 5th:** Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (pri-

vate); St. Louis Medical Society; Miller's River, Massachusetts, Medical Society.

## **Births, Marriages, and Deaths.**

### *Born.*

BAYNES.—In Troy, N. Y., on Tuesday, August 18th, to Dr. and Mrs. Joseph E. Baynes, a son.

### *Married.*

HENCKELL—ORPHY.—In Rochester, N. Y., on Wednesday, August 19th, Dr. Alfred William Henckell and Miss Ida Mary Orphy.

POOLE—SMITH.—In Providence, Rhode Island, on Saturday, August 23d, Dr. Louis Eben Poole and Miss Edith Louise Smith.

### *Died.*

COCHRANE.—In Montgomery, Alabama, on Tuesday, August 18th, Dr. Jerome Cochrane, aged sixty-four years.

GULEKE.—In Sheephead Bay, Long Island, N. Y., on Tuesday, August 18th, Dr. Hermann F. Guleke, aged seventy years.

HEWES.—In Stamford, Connecticut, on Sunday, August 16th, Dr. William J. Hewes.

KITTREDGE.—In Mount Vernon, N. Y., on Wednesday, August 19th, Dr. C. M. Kittredge, of Fishkill-on-the-Hudson.

McKNIGHT.—In Milwaukee, on Friday, August 21st, Dr. Lewis McKnight.

REYNOLDS.—In Suisun City, California, on Friday, August 7th, Dr. J. W. B. Reynolds, in the seventy-eighth year of his age.

## **Letters to the Editor.**

### **MEDICAL EDUCATION IN ILLINOIS AGAIN.**

CHICAGO, August 18, 1896.

*To the Editor of the New York Medical Journal:*

SIR: In your issue of August 15th Dr. J. W. Scott's communication in referring to my letter published in your *Journal* uses such expressions as "insincere motives," "perversion of facts," "venomous attack," and a multitude of other personalities, but not a single one of my statements has the secretary of the Illinois State board attempted to refute.

The doctor starts out with ". . . the fact that Dr. Grinker connected himself with and remained for a year upon the faculty of this school must, in the minds of fair-minded members of the profession, raise some question as to the sincerity of the motives which prompt his sudden solicitude for the cause of medical education," and he attempts by this to arouse prejudice against my statements instead of trying to disprove them.

The history of my connection with Harvey is as follows: After having read in the papers that the Illinois State board of health had decided to recognize the Harvey School of Medicine, I allowed my name to be used in connection with a professorship. I was invited to the college, and the secretary offered me the chair of pathology, which I accepted. Previous to my acceptance I had several conversations with the secretary in regard to the scope of the institution, its work, and its ultimate future, from all of which I gathered the remarkable admission that this school was only intended to be a preparatory school, a so-called "feeder" for the

day schools of medicine, and that it was expected that some day one of the regular day schools would buy up the night school and amalgamate with it. She assured me on a later occasion that her *senior class* was virtually useless, that none of the members of the class had a right to graduate, and it was not intended that they should. I then reasoned: Are there not reputable physicians teaching popular physiology and chemistry in the New York evening high schools, and why should I not connect myself with a preparatory school of medicine?

And here comes the most interesting part: As long as I was only teaching pathology to juniors I had no idea of the mental calibre of the seniors, who never were juniors in this institution and some not in any; but when my colleague, the regular professor of practice of medicine, temporarily discontinued his course of lectures, I had ample opportunities in my quizzes and lectures before seniors to form a correct estimate of the composition of the class.

Imagine my surprise when at the end of the term I received a note to come down to the office and sign diplomas! About the same time I was informed that students would graduate as full-fledged doctors, and eight diplomas were presented to me for my signature as the professor of pathology. I asked for credentials which would show that those eight seniors had passed in my branch with some reputable teacher, but was told that the directory was well satisfied that the students had passed in pathology somewhere. I then stated that I should not attach my signature to any of those diplomas until I had satisfied myself that the holders of them had passed in my branch. The secretary then told me that students might produce credentials if they saw fit to do so, but that they would graduate anyhow; furthermore, that such a request on my part was unheard of, and I was the only one of the faculty asking for credentials.

It was at this time that I discovered a *diploma-mill*, and I hastened to resign my professorship immediately, and who would not?

Now, if anybody raises a question as to the sincerity of the motives which prompted my sudden solicitude for the cause of medical education, he must be either blind or else indifferent to the best interests of our profession. What I did then was what every honest man would do. I tried to see the secretary of the State board of health, but failed to meet him. I informed the secretary's assistant of the object of my visit.

On the evening of the same day I met Dr. Scott, and asked for an investigation of Harvey Medical College.

Never was I more surprised than when Dr. Scott, whom I saw for the first time, answered all my objections in almost the same words that the secretary of the college had made use of the previous day. He knew by heart the name of every graduate of Harvey College, and was armed with an array of arguments that were simply astounding.

Does any one of my readers attribute this intimate acquaintance with the inside workings of Harvey College to sight-seeing or, perhaps, to supernatural powers?

In another interview between Dr. Scott and my colleague, the former professor of the practice of medicine at Harvey, who had also resigned because students were graduated who failed to pass the examinations in his branch, the secretary's partiality to Harvey was made still more manifest.

When the State board of health met, my colleague and I appeared against Harvey Medical School. A sys-

tematic effort was made at that meeting to prevent the reading of my charges, and only after I had made a strong plea for the privilege of the floor, in which I was assisted by the best men on the board, was I allowed to read my charges. Dr. Scott was exceedingly anxious to give the directors of Harvey—who appeared at the meeting by special invitation from the secretary—a hearing to defend their side of the question, although his motion to refer the charge to a committee had been carried.

My charges went to the committee, where they were buried, but not without my attending the funeral, which took place some time after my letter was published in this *Journal*.

That Dr. Scott is indulging in glittering generalities whenever he defends the board—or rather himself—and that he uses the bitterest personalities whenever he refers to me, can be learned from the following statements: "... No one acquainted with any of these members (and they are not unknown to the profession) believes that they would stretch the law in the interest of any institution, or that they are less jealous of the good name and high standing of the Illinois State board of health than the gentlemen who from whatever motives and without any knowledge of the workings of the board made such an unwarranted attack. That the policy of such a board could be molded by its clerical officer is unworthy of any consideration whatever."

Those members of the board who are known outside of their city have always been in a hopeless minority; the proportion is as 2 is to 7.

That the policy of such a board is molded by its clerical officer is a fact well known to everybody. I only need to mention Dr. John H. Rauch's name. That the secretary of the board is the most powerful person on the board is a result of its peculiar organization. The secretary is the only salaried officer of the board. The members of the board meet quarterly or semi-annually, have a friendly chat, and pass upon questions that the secretary has worked out very minutely—for this is his principal business—and then depart for their respective homes to meet again in three months.

As for not knowing the workings of the board and its committees, let the reader carefully peruse the following true report of a committee meeting called to investigate my charges against Harvey Medical School, and he will soon know how the board works.

One day I received a telegram from the secretary to appear before the committee on the medical practice act, before whom my charges against the Harvey night school were to be investigated. Another telegram reached me on the day of the meeting, in which I was requested to have with me the former professor of the practice of medicine at Harvey.

Armed with an amount of incontrovertible evidence and witnesses to prove beyond a shadow of doubt that the Harvey night school had violated almost every clause of the medical practice act, my colleague and I proceeded to the meeting-place.

This is what took place at the meeting, and the veracity of the following account can be attested by the witnesses who were with me:

After a preliminary sort of cross-examination carried on by Dr. Scott, in order to make my colleague, a very much respected physician, and myself appear in a bad light, the chairman of the committee declared the meeting in order. There was only one member of the committee present. Two constituted the majority. The first thing in order was the reading of my charges. Then,



without discussing them, or giving any of my witnesses an opportunity to speak, the chairman asked the secretary to read my letter published in your *Journal* of July 25th. I objected to the reading of the letter as being foreign to the object for which this meeting was called, and said that my charges were specific enough in themselves not to require any outside help to a proper understanding of the case.

The chairman, a good-natured looking German gentleman, shouted out: "*Nein*, you have *noddings* to say!" and the reading was continued. The secretary also volunteered the reading of an editorial item regarding the State board of health, published in your *Journal*, and this is how the investigation was concluded:

The chairman held up the copy of your *Journal* containing my letter and asked: "Are you the father of this article?" I answered in the affirmative. "Then," he continued, "I declare the charges against Harvey Medical School dismissed, because you have insulted the State, and it is now between you and the State." I attempted to reply that I had not even had a hearing, and that I had more than the necessary proofs to substantiate my charges, but was cut off. This is the manner in which serious charges were investigated, and I leave it to the judgment of thinking men to decide by whom such a policy could possibly have been molded.

Again, Dr. Scott sounds his own trumpet when he remarks that midwives are now required to pass a rigid written examination, instead of the oral examination previously conducted. It must be admitted that a wholesale plucking of midwives has taken place lately; it is possible that these plucked midwives will soon seek the portals of Harvey's side-show, the Playfair School of Midwifery, which I presume the secretary refers to in the following statement: "On the contrary, the secretary has been and is in favor of requiring all applicants for midwifery certificates to pass a rigid written examination" (before the faculty of the Playfair School?) "and . . . does advocate the fixing of the minimum requirements for schools of midwifery as high as those for medical colleges" (the Harvey, for instance?).

Dr. Scott's specialty seems to be *suggestion*, not only to the Harvey school, but also to the State boards of Iowa, Missouri, etc. But suggestive treatment has not been established on a firm basis as yet, and charity always begins at home.

The secretary states that the board does its work courageously, and here is where he struck the keynote. It certainly does have the unparalleled courage to recognize mushroom schools of medicine and then defend them. All praise be due them for this courageousness; as for myself, I should prefer to possess a little less courage in defending such institutions. The most amusing part of Dr. Scott's statements is to be found in his postscript, where he tries to enlist our sympathies for his vigilance in giving the Illinois Health University over to the attorney-general.

The *Chicago Record* of July 8th contains the following: "Dr. Scott, secretary of the State board of health, during the last month has received *hundreds* of letters from persons in different parts of the country complaining that they had paid J. A. Armstrong, of the Illinois Health University, of Chicago, money for diplomas to practise medicine. They found that the diplomas were valueless, as they would not be recognized by any State board of health. Dr. Scott said: 'The school is a chartered concern, and under the law any person can start a school of the kind. We have no power to suppress it

We answer all the letters by saying that the institution is a fraud.'"

It seems that something could be done after all, and I give the secretary his due for having been so vigilant as to have the charter of a diploma-selling concern revoked after it had sold diplomas to hundreds of farmers.

The foregoing reply would under no circumstances have been forwarded had not the board allowed their secretary to act and speak for them.

JULIUS GRINKER, M. D.

#### MENSTRUATION AFTER OOPHORECTOMY.

DURHAM, N. CAROLINA, July 10, 1896.

To the Editor of the *New York Medical Journal*:

SIR: On reading an article entitled A Case of Double Ovariectomy followed by Pregnancy and Delivery at Term, published in the *New York Medical Journal* of the 13th of June, 1896, a very peculiar case I have on record came to my mind. A year and a half ago I performed a laparotomy on a widow for fibroid tumors of an ovary. On finding the uterus also with fibroid degeneration, I amputated it, leaving only the cervix. Two months after the operation she began to menstruate, and has continued, though irregularly, till the present time. Both ovaries were removed, I am positive.

J. Y. GONZALEZ, M. D.

#### A SPLINT FOR THE ELBOW.

NEWMARKET, ONTARIO, August 17, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In the August 15, 1896, issue of the *New York Medical Journal* there was a description of a new splint for use in the treatment of injuries of the elbow joint. In connection with injuries of the same region, I wish to give a description of a splint that might be more serviceable in a certain class of cases than the one previously mentioned, for example, where there is great injury or destruction to the joint, or to the parts entering into its formation, where perfect fixation of the joint is required for some time.

Its advantages are: (a) simplicity in its general make-up and application, (b) perfect immobility to the parts while placed at any required angle of flexion, (c) and at the same time perfect freedom in dressing the wound or observing untoward signs without disturbing the position of the injured parts. This form of splint is particularly applicable to the kind of injury previously mentioned to the joint where early passive motion is not advisable.

The description of the splint and its application is contained in the history of the following case:

W. P., a farmer's son, fifteen years old, family and personal history good. On February 8th, he was cutting feed with a straw cutter, and, as the material was not going through properly, he gave the wheel several quick turns, then ran round to raise up with his right hand the pin that compressed the straw, and in so doing stuck his elbow in the way of the large wheel.

*State on Examination.*—A clean cut four inches in length, fairly over the posterior and lower surface of the right elbow joint, directed from above and behind obliquely downward and forward, chipping the lower extremity of the humerus, and opening the joint cavity by separating the epiphysis of the ulna from its shaft. The olecranon process was drawn up two inches by the contraction of the triceps muscle. The nerve trunks were intact, and only a few anastomotic arteries were cut.



*Treatment.*—The patient was placed under the influence of an anæsthetic by Dr. Bentley, of Sutton. The olecranon was drawn down to position and united to the shaft by a silver-wire suture, a common old-fashioned table fork being used in the absence of a bone drill, and proving a worthy substitute in this emergency in the country. The drainage-tube had to pass between the coapted surfaces of bone into the joint cavity, and for this reason they could not be brought close together by the silver wire. The external wound was closed with silk sutures and dressed with moist bichloride dressing.

The joint was placed at rest in a position a little more than a right angle, the forearm supinated, and fastened to a splint contrived to suit the demands of the case.

The splint consisted of (a) a triangular web of thin board with the obtuse angle fitting into the angle of the elbow. The sides of the web running away from the obtuse angle were placed one on the supinated forearm, the other on the anterior and inner aspect of the arm. (b) Taking the obtuse angle as a centre, an arc of a circle was cut out, thus allowing room for dressing the elbow while the splint was in position. (c) Two padded strips 1½ inch wide were nailed on the sides of the web that came in contact with the arm and forearm. (d) On these two padded surfaces were fastened strips of rubber adhesive plaster by which the splint was fastened to the arm.

For the first ten days following, the temperature was between 100° and 102.6° F.; but, on my probing and syringing out the joint cavity every day with an antiseptic solution, the temperature soon became normal, and the wound, which had failed to unite by first intention on account of tension, began to assume a healthy appearance. Twenty-one days after the operation the silver suture was found loose and taken out. There had been complete union, ossific in its nature, between the epiphysis and the shaft. The wound was completely healed by March 1st.

*Result.*—The patient has perfect use of his arm for all kinds of heavy and light work. There is power of extension of only about twenty degrees, but flexion, supination, and pronation are excellent.

J. H. WESLEY, M. D.

#### BALSAM OF PERU IN THE TREATMENT OF SCABIES

BARNESVILLE, GEORGIA, August 18, 1896.

To the Editor of the New York Medical Journal:

SIR: Permit me to say in reply to Dr. S. E. Campbell's letter of June 9th, concerning balsam of Peru in the treatment of scabies, which appeared in your issue of July 18th, that there is evidently a discrepancy between the respective editions of Waring's *Therapeutics* consulted by us. My edition is the fourth American, published in 1886 by P. Blakiston & Ives, Philadelphia. In this edition he nowhere mentions balsam of Peru in scabies, but does state, on page 225, paragraph 859, the following:

"As a remedy for *Scabies in Children*, Dr. Monti, of Vienna, employed the balsam of copaiba in twenty-seven instances, and in each effected a complete cure. Each child was first washed with soap and water and then rubbed all over twice daily with the balsam. No other application was used. He found that the itch insect could not live in the balsam beyond two or three hours."

The question remains, Which edition is correct and which of the two balsams is the remedy for the itch?

Were it not for these peculiar political times I would venture to say to Dr. Campbell that our controversy reminds me of the story of the shield set up at the meeting of two paths, one side of which was gold the other silver, but, as I do not know how he stands on the burning issue of the day, I hesitate to intimate which side he has been gazing at in this question.

G. A. COGGESHALL, M. D.

### Proceedings of Societies.

#### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.*

The President, Dr. WILLIAM H. DALY, of Pittsburgh, in the Chair.

**The President's Address.**—(See page 33.)

**Spindle-celled Sarcoma of the Nasal Passage.**—Dr. J. E. BOYLAN, of Cincinnati, read a paper on this subject. (See page 43.)

**Tracheal Stenosis.**—Dr. SAMUEL JOHNSTON, of Baltimore, read a paper on this subject. (See page 45.)

**Intermittent Dysphonia Spastica.**—Dr. F. I. KNIGHT, of Boston, read a paper on this subject. (See page 47.)

**Some Remarks on the Principles of Treatment of Simple Acute Laryngitis and Bronchitis.**—Dr. THOMAS HUBBARD, of Toledo, Ohio, read a paper with this title. (See page 81.)

**The Prophylaxis of Nasal Catarrh.**—Dr. CARL SEILER, of Philadelphia, read a paper on this subject. (See page 83.)

**Some Observations in Laryngeal Tuberculosis.**—Dr. S. OAKLEY VANDER POEL, of New York, read a paper on this subject. (See page 84.)

**Some Remarks on Acute Disease of the Lingual Tonsil.**—Dr. H. L. SWAIN, of New Haven, Conn., read a paper with this title. (See page 111.)

**The Treatment of Atrophic Rhinitis.**—Dr. W. P. PORCHER, of Charleston, S. C., read a paper on this subject. (See page 287.)

Dr. CARL SEILER, of Philadelphia, said: My experience has been that the Gottstein cotton tampon is the only reliable method of alleviating the suffering of atrophic rhinitis. I do not think it has been borne out that there is any earthly use in saturating the cotton with anything. The mechanical irritation of the cotton is sufficient to produce supersecretion as well as lachrymation. The accumulation of moisture which takes place supplements the lost power of the nasal organs in moistening the air. I have tried a slight modification of the cotton tampon by substituting aseptic wool for the cotton. These experiments have satisfied me that the wool is not absorbent and does not produce the same satisfactory results that the cotton does. The cotton will absorb the moisture and filter the air as it is inhaled. As a rule I order my patients to wash out with an antiseptic solution (alkaline) and introduce the cotton tampon themselves. They wrap the cotton around a knitting needle, then pull it off and put it into the nose. I think this not only avoids the irritation produced by a foreign body but moistens the air as well.

stops up the large spaces, and is thus good in absorbing scabs.

Dr. THOMAS HUBBARD, of Toledo, Ohio, said: The ultimate purpose of all treatment is to render the glands aseptic, and check fermentation within the membrane. To this end I have found that cotton, saturated in an alcoholic solution of acetanilide and dried, inserted with the Gottstein tampon, is very useful. The atrophic turbinates can be wrapped in this cotton and all depressions carefully packed. I have seen two cases apparently cured, the atrophic areas being confined to the turbinates, and I am positive of beneficial results in other cases.

Dr. GEORGE A. LELAND, of Boston, said: In the treatment of atrophic rhinitis there are two principles which must be absolutely insisted upon—viz., antiseptis and stimulation. The first is obviously necessary and requires no elucidation. As to stimulation, we use the Gottstein or other packing, with the application of iodine on swabs, etc., to bring about hyperæmia, that is, more blood for nutrition in the part which has lost its nutrition from the extreme opposite state.

Now, there is a drug which in my hands has been eminently satisfactory, and has produced far better effects than any I have previously used or seen described. It is a drug the use of which we all condemn in the nose and upon mucous membranes in general; first, because of its systemic effect; and secondly, because of the secondary congestion brought about by it; but it is the use of it in hyperæmic or hypotrophic states, and especially in the hands of the patient, which we condemn. It is just this secondary hyperæmia which is most useful in these cases of atrophic rhinitis. It is my custom to place a thin pledget of cotton saturated with a 10- to 20-per-cent. solution of cocaine upon the remains, or upon the previous location of the lower turbinated bodies; for these are not always absent, that is, as to their third or cavernous layer, even when they appear so. These pledgets are allowed to remain for twenty or thirty minutes, when the full constrictive effect of the drug has been produced. They are then removed, and the nostrils are packed with large pledgets of some antiseptic solution—such as corrosive sublimate, 1 to 5,000 or even 2,000, or some of the other antiseptic solutions which are now being introduced. These are allowed to remain for about the same length of time. On their removal there will be, I am often astonished to find, a degree of hyperæmia in the regions of the turbinates which makes them seem to have been partially restored.

The patient is not allowed to make these applications, but comes to my office two or three times a week to have it done. The patient, however, uses an antiseptic spray or douche, together with the internal exhibition of some iodide (syrup of hydriodic acid usually), these agents seeming to produce hyperæmia in the upper air-passages.

My attention was called to the use of resorcin in cocaine solutions some years ago in my reading: I am sorry I have forgotten the author's name. I have used three or four grains to the ounce of the cocaine solution, and for two or three years I have very rarely had any systemic effect. The resorcin preserves the solution from deterioration also.

By the above-named method of treatment, I have been astonished to see cases which were apparently hopeless, after treatment lasting over many years in other hands—by the use of cauterization, strong solutions of nitrate of silver, and all the other methods which we

have used for this *bête noire* in our specialty—restored to such a condition that the patients considered themselves cured after a season of two or three years' treatment (summers excepted), which is a comparatively short time for the cure of such a condition.

Dr. M. J. ASCH, of New York, said: After using many different methods I have come to the conclusion that we can not do more for these patients than to thoroughly cleanse the parts and use a mild application—a mildly stimulating solution, bringing on reaction, is all that is necessary. Putting cotton in the nose accomplishes very little more than, if as much as, the cleansing and applications. It gives the patient trouble and the prognosis is no better. Individual cases require individual treatment. Perhaps the diminishing of the size of the middle turbinated bone may be required, but in ordinary cases thorough washing and stimulation will accomplish all that can be done.

Dr. JOHN O. ROE, of Rochester, N. Y., said: In the treatment of atrophic rhinitis I have had excellent results from the use of a mild solution of nitrate of silver applied thoroughly to the diseased parts, after thorough cleansing, followed by the use of a mild galvanic current, the negative pole applied to the interior of the nostril by means of a copper wire wound with cotton, moistened with a saline solution. The combined stimulating properties of the silver and the galvanic current have in many cases given me the most excellent results. I believe, however, that many cases regarded as ozena are simply the fetid secretions from some of the accessory sinuses drying into crusts in the nose. This readily accounts for the reappearance of fetid crusts on an apparently unabraded surface very shortly after the nose has been thoroughly cleansed and all crusts and secretions have been removed. In these cases the treatment is of no avail unless we reach the seat of the disease, which is frequently to be found hidden away in the recesses or cells and sinuses that communicate with the nasal passages.

Dr. JOHN N. MACKENZIE, of Baltimore, said: I do not think this discussion should close without a mild protest against the incautious and constant use of cocaine in the nasal passages and throat. As I pointed out years ago, aside from the possible dangers from the toxic effects of the drug, and the acquisition of the cocaine habit, the constant use of cocaine begets a permanent congestion of the parts which neutralizes all attempts to recover the normal condition of affairs. To treat, therefore, any chronic affections of the mucous membrane with cocaine is, to say the least, an injudicious and hazardous experiment.

Dr. J. E. H. NICHOLS, of New York, said: I should like to suggest the use of orthochlorophenol in these cases. It is a disinfectant and stimulates secretions very markedly. I have had better results with this than with anything else. A strength of ten per cent. is about right.

Dr. E. FLETCHER INGALS, of Chicago, said: I agree with Dr. Mackenzie that cocaine should not be used in any case unless the doctor knows just how much the patient is using and is in position to stop it at once if necessary. In these particular cases there is undoubted benefit to be derived from this drug, and if the patient does not use more than one or two grains in a week it may do good and no harm. I have seen the turbinated bodies restored under continuous use of small quantities of cocaine. Much benefit may be derived from the use of mercurials in these cases. A quarter of one per cent. of yellow oxide of mercury in powder is a good remedy.



A person approaching thirty-five is apt to get over the affection any way, but in younger people it is not so. The treatment should be cleanliness first, then oily sprays and small quantities of cocaine, and finally yellow oxide of mercury, in powder, once or twice a day.

(To be continued.)

## Miscellany.

**The American Public Health Association.**—The twenty-fourth annual meeting will be held in Buffalo, on September 15th, 16th, 17th, and 18th, under the presidency of Dr. Eduardo Licéaga, of Mexico. The following subjects will be discussed: The Pollution of Water Supplies; The Disposal of Garbage and Refuse; Animal Diseases and Animal Food; The Nomenclature of Diseases and Forms of Statistics; Protective Inoculations in Infectious Diseases; National Health Legislation; The Cause and Prevention of Diphtheria; The Causes and Prevention of Infant Mortality; Car Sanitation; The Prevention of the Spread of Yellow Fever; Steamship and Steamboat Sanitation; The Transportation and Disposal of the Dead; The Use of Alcoholic Drinks from a Sanitary Standpoint; The Centennial of Vaccination; The Relation of Forestry to Public Health; The Transportation of Diseased Tissues by Mail, and The River Conservancy Boards of Supervision.

The special committees are: *Publication Committee.*—Dr. Irving A. Watson and Dr. Granville P. Conn, of Concord, New Hampshire; Dr. Samuel W. Abbott, of Wakefield, Massachusetts.

*On the Pollution of Water Supplies.*—Major Charles Smart, U. S. Army, of Washington, with authority to select associates.

*On the Disposal of Garbage and Refuse.*—Mr. Rudolph Hering, C. E., of New York; Professor Delos Fall, of Albion, Michigan; Dr. Louis Laberge, of Montreal; Dr. Henry F. Hoyt, of St. Paul; and Mr. Roberto Gayol, C. E., of Mexico.

*On Animal Diseases and Animal Food.*—Dr. D. E. Salmon, of Washington; Professor James Law, of Ithaca, N. Y.; Professor José Gomez, of Mexico; Dr. Henry N. Avery, of Minneapolis; and Dr. Carl Weidner, of Louisville, Kentucky.

*On Nomenclature of Diseases and Forms of Statistics.*—Dr. Samuel W. Abbott, of Wakefield, Massachusetts; Dr. Jesus E. Monjaras, of San Luis Potosi, Mexico; Dr. Elzéar Pelletier, of Montreal; Professor Cressy Wilbur, of Lansing, Michigan; and Dr. Charles N. Hewitt, of Red Wing, Minnesota.

*On Protective Inoculations in Infectious Diseases.*—Dr. C. N. Hewitt, of Red Wing, Minnesota; Dr. George M. Sternberg, U. S. Army, Washington; Dr. George H. F. Nuttall, of Baltimore; Dr. M. Carmona y Valle, of Mexico; and Dr. William C. Bailey, of Knoxville, Tennessee.

*On National Health Legislation.*—Dr. Henry P. Walcott, of Cambridge, Massachusetts; Dr. J. N. McCormack, of Bowling Green, Kentucky; Dr. Irving A. Watson, of Concord, New Hampshire; Dr. James D. Plunkett, of Nashville, Tennessee; Dr. Henry B. Baker, of Lansing, Michigan; Dr. Samuel R. Oliphant, of New Orleans; Dr. Richard M. Swearingen, of Austin, Texas; Dr. Henry B. Horlbeck, of Charleston, South Carolina; Dr. Benja-

min Lee, of Philadelphia; Dr. Samuel H. Durgin, of Boston; Dr. U. O. B. Wingate, of Milwaukee; Dr. Stephen Smith, of New York; and Dr. C. O. Probst, of Columbus, Ohio.

*On the Cause and Prevention of Diphtheria.*—Dr. J. J. Kinyoun, U. S. Marine-Hospital Service, Washington; Dr. Peter H. Bryce, of Toronto, Canada; Dr. Juan Ramirez de Arellano, of Mexico; Dr. Wyatt Johnston, of Montreal; and Dr. A. W. Suiter, of Herkimer, N. Y.

*On the Causes and Prevention of Infant Mortality.*—Dr. C. N. Hewitt, of Red Wing, Minnesota, with authority to select associates.

*On Car Sanitation.*—Dr. Granville P. Conn, of Concord, New Hampshire; Mr. E. C. Jordan, C. E., of Portland, Maine; Dr. Domingo Orvananos, of Mexico; Professor S. H. Woodbridge, of Boston; and Dr. E. R. Lewis, of Kansas City.

*The International Committee on the Prevention and the Spread of Yellow Fever.*—Dr. Felix Formento, of New Orleans; Dr. George M. Sternberg, U. S. Army, Washington; Dr. Gregorio Mendizabal, of Orizaba, Mexico; Dr. Manuel Carmona y Valle, of Mexico; Dr. Jerome Cochran, of Mobile; Dr. Samuel R. Oliphant, of New Orleans; and Mr. Alfred V. Wood, of Brunswick, Georgia.

*On Steamship and Steamboat Sanitation.*—Dr. Frederick Montizambert, of Quebec; Dr. Samuel R. Oliphant, of New Orleans; Dr. H. B. Horlbeck, of Charleston, South Carolina; Dr. Albert L. Gihon, U. S. Navy, New York; and Dr. S. H. Durgin, of Boston.

*On the Transportation and the Disposal of the Dead.*—Dr. C. O. Probst, of Columbus, Ohio; Dr. Elzéar Pelletier, of Montreal; Dr. C. N. Hewitt; Dr. J. D. Griffith, of Kansas City; and Dr. P. H. Bryce, of Toronto, Ontario.

*On the Use of Alcoholic Drinks from a Sanitary Standpoint.*—Dr. Felix Formento, of New Orleans; Dr. C. O. Probst, of Columbus, Ohio; and Dr. E. P. Lachapelle, of Montreal.

*On the Centennial of Vaccination.*—Dr. T. Grange Simons, of Charleston, South Carolina; Dr. Joseph M. Toner, of Washington; Professor Charles A. Lindsley, of New Haven; Dr. Angel Contreras, of Puebla, Mexico; and Dr. N. S. Davis, of Chicago.

*On the Relation of Forestry to Public Health.*—Professor R. C. Kezie, of Lansing, Michigan; Dr. J. F. A. Adams, of Pittsfield, Massachusetts; Dr. Elzéar Pelletier, of Montreal; Dr. Salvador Garciadiego, of Guadalajara, Mexico; and Dr. Charles R. Walker, of Concord, New Hampshire.

*On the Transportation of Diseased Tissue by Mail.*—Dr. Henry Mitchell, of Trenton, New Jersey; Dr. E. P. Lachapelle, of Montreal; and Dr. Domingo Orvananos, of Mexico.

*On River Conservancy Boards of Supervision.*—Dr. H. P. Bryce, of Toronto, Ontario; Dr. C. O. Probst, of Columbus, Ohio; and Mr. Rudolph Hering, C. E., of New York.

*Chairman of the Local Committee of Arrangements.*—Dr. Ernest Wende, of Buffalo.

**Chemical Demorphinization.**—In the *Progrès médical* for August 1st, Dr. Albrecht Erlenmeyer calls attention to a new method of demorphinization which he calls the chemical method, and says that for nearly three years he has used it with the best results.

The clinical appreciation of certain symptoms of suppression, he says, should bring about a certain resemblance between these symptoms and those of dyspepsia which is due to hyperacidity. There may be found in



the two cases not only direct gastric symptoms, such as distention, intestinal pain, vomiting, diarrhoea, etc., but also indirect symptoms, such as heat in the spine, restlessness of the limbs and the body, and pain in the legs. This condition should lead to an investigation in order to ascertain if, at the time of suppression of the morphine, this same chemical alteration which is found in dyspepsia due to hyperacidity exists in the stomach, that is, if there is an excess of hydrochloric acid. In reality, says the author, these suppositions are true. At the time of demorphinization, when the patient receives no morphine or hardly any at all, and when the symptoms of suppression are the most violent, a considerable excess of hydrochloric acid has been found in the stomach.

Marmé, Stolnikow, and Rosenthal, says Dr. Erlenmeyer, have shown that a part of the morphine which is injected subcutaneously is transmitted to the stomach, and Alt ascertained that the portion which reached the stomach was about half of the dose injected, and that this elimination began a few minutes after the subcutaneous injection.

A consideration of this chemical process, continues the author, leads to the following reflections: In a person accustomed to take subcutaneous injections the morphine penetrates the walls of the stomach and produces morphinization of the secretory glands. This narcotic condition of the glands becomes almost permanent in persons addicted to morphine, and consequently the glands cease their functions; that is to say, they do not produce any hydrochloric acid, and the result is a non-acid condition of the stomach during the period of morphinization. The absence of the acid is not without influence on the gastric nerves; furthermore, these nerves are exposed to local narcotism, and it is easily seen that they will cease their functions under the influence of these two agents.

After the suppression of the morphine the condition is entirely different; the narcotic state of the secretory glands diminishes in proportion to the suppression of the morphine; they recover from the effects of the drug, resume their functions, and produce a veritable inundation of hydrochloric acid. This flow of acid influences the nerves and irritates them greatly, the result of which is a local and general trouble, namely, the so-called symptoms of suppression, such as vomiting, pain in the stomach, colic, diarrhoea, insomnia, acceleration of the pulse, heat and pain in the back, and restlessness of the limbs. It is useless to say that the nervous symptoms, aside from the gastric symptoms, are reflex results primarily produced by the irritation of the gastric nerves, then by the propagation of this irritation to the other tracts of the nervous system. If, says Dr. Erlenmeyer, these facts are admitted, it will not be difficult to find a rational treatment. Hitzig, he says, under the influence of these considerations, made the first attempt. At the time of suppression he emptied the stomach of a patient by means of a tube and in this way caused the disappearance of the hydrochloric acid; he then introduced into the stomach some alkaline water in order to neutralize what might have remained of the acid. The very interesting result of this procedure was that the patient was free, if not completely, at least partly, from the symptoms of abstinence. There were no local gastric symptoms or general or reflex symptoms; the heat and the pain in the back and the restlessness were also absent. The patient, who had undergone various methods of treatment for suppression of morphine, stated that the latter, that is the chemical method, was without

doubt the best, as it was more easily tolerated and gave rise to no grave symptoms.

The evacuation of the stomach by means of a tube is not an agreeable procedure, and often the patients are not able to tolerate it. In this case Dr. Erlenmeyer practises local neutralization by administering at least a pint a day of Fachingen water, which contains a large quantity of sodium bicarbonate. The effect of this medication, he says, is most unexpected; there is no vomiting or colic, and in place of the diarrhoea which, in other cases, caused so much uneasiness there is constipation. With regard to the reflex nervous symptoms, there are none at all, or they are so slight that the patients do not suffer from them. In three years Dr. Erlenmeyer has treated more than thirty patients in this way, and he states that recovery was incomparably easier to obtain than in those cases in which he employed other treatment, and he does not doubt that this method will become the treatment of the future. If it is successful, he says, it will be the true method of demorphinization.

**The Pig of the Bicêtre.**—A writer in the *Gazette hebdomadaire de médecine et de chirurgie* for August 9th says that, according to *l'Éclair*, the following is an authentic account of the mysterious abduction which had been referred to in another issue of that journal: In conformity with an ancient tradition, the internes of the Bicêtre fatten a pig every year in their garden for the Christmas festivals. The internes of a hospital in Paris, having cast envious eyes upon the animal, resolved to appropriate it for themselves. Accordingly, seven of them hired two carriages and drove out to the garden of the Bicêtre toward midnight. On their arriving at the garden, three of them were detailed to keep watch of the road while the others climbed the garden wall, which was rather low at this spot, and sprang upon the animal, that was sleeping peacefully. They tied its feet together, whereupon the animal began to grunt, and, in order to prevent any trouble, they chloroformed the pig, wrapped him in a sheet, and carefully carried him over the wall.

In the mean while, however, the two coachmen, who suspected that they were assisting in the commission of a crime, tried to get away, but the internes overtook them, told them who they were, and finally persuaded them that it was a joke, but the coachmen insisted on seeing the pig before they would believe it. On the return they were obliged to pass a toll-gate, which was altogether a different matter, and, after mature deliberation, they decided that the best way to deceive the officials was to pass without revealing anything, and to sing as loud as they could while passing the gates, in order to drown the grunting of the animal which had been heard from time to time. Everything took place as they had expected, and the young physicians passed the gate safely without giving rise to the least suspicion on the part of the officers. The rest of the journey was accomplished without any trouble until the rue Gay-Lussac was reached, when St. Anthony's companion awoke fully and gave vent to piercing cries. One of the physicians immediately sat upon its head to quiet it, which he did very effectually, for the animal relapsed into a state of syncope. The internes became alarmed at this and at once practised artificial respiration and rhythmical traction of the tongue of the poor animal, which was almost asphyxiated; but all their efforts were fruitless, for the pig died.

The joke did not end here; the internes decided to send to all their colleagues in the hospitals of Paris, in

the name of the internes of the Bicêtre, telegrams announcing the death of the animal and inviting them to attend a dinner—a funeral feast—which was to take place at the Bicêtre. The internes of the Bicêtre, who were furious at having received telegrams of condolence from all parts, resolved to respond by another joke. They erected in their garden a magnificent catafalque, and all those who were invited to dine were asked to march, one after the other, around the lighted catafalque, which contained an empty coffin! But no banquet followed. Thus terminated the joke of the pig of the Bicêtre.

**Mercurial Albuminuria.**—At a recent meeting of the Berlin Medical Society, a report of which appears in the *Annales de dermatologie et de syphiligraphie* for July, Dr. Fürbringer stated that Dr. Lewin had not observed a single case in which he could positively affirm that mercury had caused albuminuria, while the speaker himself had met with but eight per cent. of such cases in a period of ten years. With regard to the production of this albuminuria, he laid stress not only on the large doses of mercury, but on individual tendencies. It was to the latter especially that we should attribute the differences in the statistics. Lewin, he said, had often found albumin in the urine, but especially in that which contained a blennorrhagic secretion. When the kidneys were diseased, the mercury was excreted in large quantities by the intestine and gave rise to diarrhœa; consequently the renal function should be carefully watched, and great prudence should be exercised with patients who had previously had nephritis, scarlatina, etc. There were few organs in which relapses occurred so frequently as in the kidneys. Not only cold provoked relapses, but they also supervened during the elimination of mercury.

The diminution of the renal function, said Fürbringer, might also provoke albuminuria, and this diminution had been observed in cases of abundant sweating.

Dr. Grimm thought that the many investigations which had been made in regard to the employment of mercury in syphilis, relative to albuminuria, were not altogether free from objections, especially that which related to injections. Many accidents, he said, might be caused by subcutaneous injections, principally those that were intramuscular. The results of his experiments showed that the objections raised against this method were justified.

Dr. Blaschko said that, in regard to nephritis, it was less important to consider the nature of the preparation and its form of administration than the quantity of the mercury. The soluble preparations became insoluble at the moment of injection, because they formed mercury albuminates with the albumin of the tissues. This was particularly so in intramuscular injections, and important points to bear in mind were that too large doses must not be injected, and that as much precaution was necessary in employing the insoluble preparations as in using the soluble ones. Whatever the mode of administration, individual idiosyncrasies must be ascertained. When patients succumbed after a single application of mercurial ointment, after nephritis or after acute enteritis, we must bear in mind that similar results might ensue when mercury was given by subcutaneous or intramuscular injections, and caution must be exercised in regulating the dose, especially in the beginning. If there were no idiosyncrasies, the doses might be increased gradually without any unfavorable symptoms resulting except in rare cases.

Dr. Heller did not doubt the important rôle idiosyncrasy played in the origin of mercurial diseases, but it was curious, he said, in how few cases idiosyncrasies had been found in connection with the subcutaneous as compared with other methods of mercurial treatment. Consequently, he thought that the most essential condition for the development of mercurial albuminuria was the quantity of mercury employed.

**Are Copper Salts Dangerous?**—The *Nouveaux remèdes* for July 8th contains an article on this subject in which the writer refers to some remarkable experiments made by M. Galippe, of Paris, which, he says, have demonstrated conclusively the harmlessness of copper salts. It is only in acute conditions that, according to this author, poisoning by these substances can occur; and then it is not a question of true poisoning, but of a gastro-intestinal irritation analogous to that which is produced by a common caustic. Very exceptionally are serious symptoms of poisoning observed, as the organism has the greatest tendency to free itself from substances which are endowed with emetic properties.

M. Galippe, the writer continues, has been able to ingest for a number of consecutive days fifteen grains of a soluble copper salt without feeling any real inconvenience. In one instance he gave a dog an average daily dose of eight grains of copper acetate, and he noticed but very little vomiting or diarrhœa. However, Durand's, Orfila's, and Smith's experiments have shown the danger of copper salts; that they do not cause death by a veritable poisoning, but by troubles of the organism of slow evolution and by gastro-intestinal lesions to which they give rise.

M. Galippe wishes that the hygienists would insist on the harm that may be caused by the use of these salts, in order to prevent the public from eating vegetables to which a green color has been imparted by copper salts.

When the public has been warned against a danger that it ignores, says M. Duclaux, of Paris, the only thing to do is to put a stop to it by issuing a pamphlet containing words to this effect:

That, although copper salts are not sufficiently dangerous to lead to the suppression of their employment, yet manufacturers who use them must do so on their own responsibility, and all accidents which may be imputed to their products will be charged to them, even if it is proved that the contents of the box which caused the accident do not contain any more copper than those which have remained harmless.

Such terms, continues the writer, comport with the rights of every one, and it permits the judges before whom cases may come up to receive favorably the demand for damages from those who have suffered from the addition of foreign substances to their food.

**Slow Pulse with Pupillary Inequality following Scarlatina.**—M. Grancher contributes an article on this subject to the *Revue mensuelle des maladies de l'enfance* for August, in which he relates the history of a case which came under his observation. The patient, a child eleven years of age, made a rapid recovery; the daily examination of the urine revealed no albumin. A month after the beginning of the disease the patient left the hospital; the pupils were unequal and the pulse was slow; but he did not appear to suffer from these two symptoms.

M. Grancher, commenting on the case, says that the morbid syndrome presented by this patient is very distinct from that to which is given the name of perma-



nent slow pulse with attacks of syncope and epilepsy, or Stokes-Adams disease. While the true Stokes-Adams disease, he says, is rarely observed in persons under forty years of age, the slow pulse of nervous origin may be observed at all periods of life; its frequency at any given age is in proportion to that of the nervous lesions which may produce it, and it is not astonishing to see a permanent slow pulse in a child eleven years of age. Since this slow pulse is of nervous origin, the exception which it constitutes only confirms the rule.

The nervous lesions which produce permanent slow pulse, says M. Grancher, may be connected with any of the organs of innervation of the heart. The lesion may be situated in the heart itself, injuring the intracardiac ganglia. It may be connected with one or the other of the pneumogastric nerves which are compressed by a tumor. It may attack the bulb and the upper part of the medulla oblongata. It is only when the lesion affects this region that the coexistence of pupillary dilatation may be explained. Chauveau, says the author, has shown that at the upper part of the medulla a centre exists which is called the cilio-spinal, and extends from the sixth cervical vertebra to the second dorsal and governs the dilatation of the iris.

M. Grancher thinks that in his case there existed some trouble in this region of the spinal cord which attacked the cardio-spinal and the cilio-spinal centres. There had been no traumatism of the cervical vertebrae, and no trace of cervical Pott's disease, as pressure in this region did not give rise to any pain. As the trouble supervened during the course of an infectious disease, he is inclined to think that it was the result of infectious localization in the cilio-spinal and the cardio-spinal centres, analogous to those infectious localizations in the motor centres of the limbs which cause infantile paralysis. This hypothesis, he thinks, seems the most probable in the absence of anatomical verification.

**The Curative Treatment of Exanthematous Typhus by Artificial Serum.**—The *Revue internationale de médecine et de chirurgie* for August 10th contains an article by M. Sapelier, who gives a detailed account of twelve cases in which he employed this treatment, and the conclusions drawn therefrom: 1. Exanthematous typhus is generally infectious and eminently contagious, and it is often carried by infected persons to places where the disease has not existed. 2. Poor and half-starved persons are more liable to the disease than others. 3. Contagion occurs by direct contact with a sick person. 4. The average period of incubation is from ten to twenty-two days. 5. The microbian nature of the disease can not be doubted, but the germ remains unknown. The bacteriological examinations which were conducted in these cases did not reveal the presence of any micro-organism to which could be attributed any specific value. 6. In the last epidemic, dysphagia, unvarying meiosis, and myalgia were the three important symptoms which predominated. The mortality was terrible, the average percentage of deaths being eighty. Old men particularly were attacked with the disease; the women and children nearly always escaped; not a single case of true exanthematous typhus was observed among them. 7. Old men are more likely to succumb than adults, not to the typhus, but to the complications of the disease, as their organism may be weakened or diseased, or there may be functional troubles which are the result of various affections which have attacked them during the earlier periods of life.

In regard to the treatment, says M. Sapelier, cold baths should be regarded as dangerous in old persons and in those who have any heart trouble or who are affected with arterial sclerosis. The fall of temperature which the cold baths produce is not of sufficient duration to bring relief to the patients, but it is a good treatment in young persons. On the other hand, injections of artificial serum may be employed for patients of all ages and conditions at any stage of the disease. High fever is the best indication for the employment of the serum in typhus, and the liquid should be at a temperature of 86° F. at least. The advantage of this treatment over the cold baths, says the author, is that the lowering of the temperature lasts for twelve or fourteen hours.

In M. Sapelier's cases this treatment favored diuresis very greatly, and the albumin diminished rapidly and soon disappeared. Under the influence of the reduction of fever and the diuresis the toxins were easily and rapidly eliminated; the urotoxic coefficient was increased three and even fourfold. The eliminated toxins in proportion to their production diminished the organic infection and increased the resisting powers of the patients.

In M. Sapelier's experience this treatment, systematically applied in grave cases, lowered the mortality to fifty per cent. where formerly it had been eighty and eighty-five.

**The American Dermatological Association.**—The twentieth annual meeting will be held in Hot Springs, Va., on September 8th, 9th, and 10th, under the presidency of Dr. A. R. Robinson, of New York. The programme includes the following titles: Notes on Dermatitis Venenata, by Dr. J. G. White, of Philadelphia; Paget's Disease of the Nipple, by Dr. G. T. Jackson, of New York; Ulcerative Scleroderma, by Dr. P. A. Morrow, of New York; Two Cases of Arsenical Pigmentation, by Dr. W. A. Hardaway, of St. Louis; A Pathological and Clinical Classification of the Diseases of the Skin, by Dr. L. A. Duhring, of Philadelphia; Erythema Multiforme, with a Report of Two Cases, by Dr. W. T. Corlett, of Cleveland; A Peculiar Affection of the Mucous Membrane of the Lips and Mouth, by Dr. J. A. Fordyce, of New York; A Favuslike Eruption of the Oral Mucous Membrane caused by the *Aspergillus Niger*, by Dr. James M. Winfield, of Brooklyn; What Effect do Diet and Alcohol have upon the Causation and Course of the Eczematous Affections and Psoriasis? by Dr. J. C. White, of Boston; Cases of Mycosis Fungoides and Sarcomatosis, by Dr. J. T. Bowen, of Boston; Xanthoma Diabeticorum, by Dr. A. R. Robinson, of New York; Some Glycosuric Dermatoses, by Dr. C. W. Allen, of New York; The Relation of Dermatitis Herpetiformis to Certain Other Diseases, by Dr. L. A. Duhring, of Philadelphia; Bath Pruritus, by Dr. H. W. Stelwagon, of Philadelphia; An Eruption from the Local Use of Iodoform, by Dr. J. A. Fordyce, of New York; and Impetigo Contagiosa Universalis, by Dr. C. W. Allen, of New York. There will be an exhibition of drawings, water colors, colored photographs, photographs, and portraits of rare cases. Instruments and specimens will be presented, and microscopic preparations and photomicrographs demonstrated.

**Thyroids in the Treatment of Catalepsy.**—In the July number of the *American Journal of Insanity* Dr. Joseph G. Rogers, of the Northern Indiana Hospital for the Insane, gives an account of two cases which are of special interest because of the long duration of catalep-



tic conditions, and, still more so, because of the promptly beneficial effects of thyroid medication after the complete failure of other methods of treatment. The principal points in the more remarkable case, he says, are as follows:

In the fall of 1890, during or after an attack of malarial fever, the patient evinced mental aberration for about two weeks, with hallucinations and delusions of impending personal harm and legal involvement. Subsequently he was apparently well until the middle of January, 1892, when he was attacked by *la grippe*, speedily complicated by maniacal symptoms; he was noisy, restless, and sleepless; he had delusions of dread which were occasionally violent (he once fired a pistol at an imaginary enemy); he was very hilarious at times, laughing and singing without provocation, and then melancholy and dreamy.

He was admitted to the hospital two weeks later, on February 2, 1892, in a fair physical condition, and showed no salient symptoms of mental alienation in conversation or conduct, but his letters to relatives, shortly after, indicated delusions of conspiracy and revenge. He soon became accustomed to his surroundings, took part in the ward work and amusements, attended chapel and the dances, and was agreeable, cheerful, contented, well-behaved, and gentlemanly.

On June 9, 1892, he was sent home, apparently in a fair mental condition, but not discharged.

On October 14, 1892, he was returned to the hospital in a state of great mental depression, which had existed for some time previously. For some weeks following, at times, he would lie for hours in a trance, neither speaking, moving, nor giving attention to ordinary external impressions, and, if forcibly aroused, would at once become violent and strike those about him. Intermediately he was melancholy and silent, but would take some exercise and a sufficiency of food. The trance state, however, recurred more and more frequently, and on Christmas day, 1892, it became continuous, and nasal feeding was begun, because food placed in the mouth would remain unswallowed. (Meantime, however, he had been fairly well nourished.)

For three years continuously but little change in the case was manifested. He lay during all this period like a log, to all appearances wholly oblivious to external impressions or internal sensations, uttering no sound and making no sign indicative of mental action, unless it was an occasional secretion of tears which was often noticed. For many months the limbs could be readily placed in any position without positive resistance and would remain so placed for some time, however grotesque the attitude; later they became less flexible and assumed a fixed position, which could not be changed without the use of great force, which was avoided.

Sensibility to touch and pain seemed to be almost annulled; the faradaic current produced muscular contraction, but was not notably noticed by the patient. This condition continued without material change until November 1, 1895. During the first months of observation, tonics of various sorts, together with faradaic electricity, massage, and baths, were diligently used, but they were of no avail, and all treatment other than good feeding, frequent bathing, and careful attention to warmth of body was finally stopped. He suffered no intercurrent ailment; assimilation and excretion were sufficient and regular; there seemed to be no hopeful indication for any particular method of treatment, and none was attempted for many months, until the author

determined to test the efficacy of thyroids, and on November 1, 1895, the treatment was begun. On the 6th active movements of the fingers were noted, on the 24th the lips moved slightly, and on the 29th the patient extended his left arm almost straight. The average temperature increased a degree or more and became normal, while the pulse rose to 90. The treatment was suspended until December 16th, when it was resumed and continued until January 23d, at which time it was stopped on account of the rapid action of the heart. During this period of forty-one days of medication the temperature and respiration became normal and for a few days rose somewhat above it; the pulse remained at about 80 for two weeks, and gradually increased until it reached 140; it was soft, small, and regular. On the 17th of January the patient was placed in a sitting posture and was able to take a cup of cognog and drink it. On the 27th the temperature was 101° F. and the pulse 150; he laughed audibly and was quite restless. An attendant offered him a piece of paper and a pencil, and much to his surprise the patient took it and wrote that he would like to have his mouth washed out with a soft cloth, and that he would like a little cold water to drink. In the course of the evening he wrote several sentences. This condition lasted until February, when a complete relapse took place. On the 7th his condition was unchanged; on the 11th he was able to take soft food, and on the 23d he was able to speak. On the 29th he sat up during the day and ate well.

During the month of March no thyroids were given; the pulse went down gradually and it required two weeks to reach its normal state; respiration and temperature became slightly subnormal. The relapse toward inactivity, says Dr. Rogers, when the remedy was stopped was not so complete as before, but still very notable. For a time mastication was difficult. On March 9th the patient got up and walked with some assistance to another room. On the 12th massage was begun and on the 28th the use of the thyroids was again resumed. On April 7th there was a slight improvement, which gradually increased until May 27th. On that date the patient wrote a letter to his mother and was able to walk from one building to another. Since that time he has been mentally almost normal, and, although physically weak from long inactivity, he takes short drives and walks, and shows general evidence of having reached permanently a plane from which he may be reasonably expected to pass on to a condition of health.

The important deductions to be made from the histories of these cases, says Dr. Rogers, are the following:

1. That in conditions marked by inhibition of sensory, motor, and mental activity, without gross organic lesion, such as are met with in catatonica and in certain types of stuporous insanity and melancholia, we may expect benefit from thyroid medication, judiciously used.

2. That the effects of thyroids in full dose bear a striking resemblance to many of the symptoms of Graves's disease—namely, orbicular weakness, consecutive conjunctivitis, skin eruptions, and temporary bronzing, without icterus of the eyes, profuse local fetid sweats, subjective sense of heat and thirst, excessive metabolism, decided tachycardia, and the absence of any fixed relation between pulse rate, respiration, and temperature.

3. That the theory of Möbius, that Graves's disease is due to overactivity of the thyroid gland, is strongly supported.

**Diphtheria Antitoxine sometimes found in the Blood of Horses that have not been Injected with Toxine.**—In the July number of the *Journal of Experimental Medicine* Dr. B. Meade Bolton, of Philadelphia, remarks that every one who has undertaken the production of diphtheria antitoxine has encountered a marked difference in the behavior of the horses inoculated. With some horses, he says, it is a matter of very little difficulty to obtain antitoxine of high potency in a comparatively short time. With others it seems impossible to obtain strong antitoxine, and with others again there is such a violent reaction that it is impossible to continue the inoculations. Dr. Bolton thinks that the explanation of this may be found in the normal variation of the blood in the different animals. In order to test this, all the horses that were afterward used for the production of antitoxine for the laboratory of the board of health of Philadelphia were first tested as to the presence of antitoxine normally. In all, the blood serum of twelve healthy horses was tested previous to injection with diphtheria toxine. Out of this number three were found to possess antitoxine of such strength that three cubic centimetres of the serum were capable of neutralizing ten times the minimum fatal dose for guinea-pigs—i. e., one thirtieth of a normal antitoxine unit. In all three horses the strength of the antitoxine seemed to be the same. The guinea-pigs injected with three cubic centimetres all remained alive and well; those injected with a lesser amount all succumbed promptly to the accompanying dose of toxine. Injections of blood serum from horses not possessing normal antitoxine exerted no influence even in larger doses, up to five cubic centimetres. The difference, says Dr. Bolton, seems to be clearly one of quality and not of quantity, an essential difference in some constituent of the blood.

The behavior of the horses possessing antitoxine normally in their blood, the author remarks, presents certain points of interest on injections of toxine. These horses show much less reaction at the beginning than other horses, and it is possible to increase the doses to a certain point much more rapidly without causing alarming symptoms. After the dose has been increased till it reaches about a hundred cubic centimetres or more the reaction seems to be as marked as in horses that have had to be brought up to this dose more gradually. Experiments on two horses with antitoxine in their blood normally and two without antitoxine were begun together. One of the latter reacted so strongly that it was impossible to continue even with very small doses. The experiments on the three other horses have been continued. Up to the present time one of the horses with antitoxine normally present has received nearly three litres of toxine, the other over four litres, and the horse without the antitoxine normally present has received less than two litres, and yet they all show about the same amount of reaction at present from injections of a hundred cubic centimetres of toxine. At first, when the doses were small, there was practically no reaction in the horses in which the antitoxine was present normally, whereas in the other horse there was always decided reaction.

One of the horses with antitoxine normally present (the horse that has received about three litres of toxine) is beginning to furnish strong antitoxine, almost a thousand units to ten cubic centimetres. The other horse with antitoxine normally present (the horse that has received over four litres) furnishes very weak antitoxine, less than six hundred units to ten cubic centimetres.

The horse that had no antitoxine normally, that had received nearly two litres of toxine, furnishes quite strong antitoxine, almost a thousand units to ten cubic centimetres. It would seem from this, says Dr. Bolton, that the presence or absence of more or less antitoxine normally has no effect upon the ultimate production of artificial antitoxine by inoculation, but its presence enables the inoculations to be made with less risk to the animal.

It is difficult to explain the presence of antitoxine normally in the blood of horses. Wassermann, he says, found antitoxine in the blood of healthy persons, who stated that they had never had diphtheria, but he inclined to the belief that these persons at some period must have suffered from unrecognized diphtheria. Orłowski also found diphtheria antitoxine in the blood of children who had presumably never suffered from diphtheria, and he found it also in the blood of convalescents, as others had done. Orłowski, says Dr. Bolton, does not accept Wassermann's explanation, because he does not find that the age of the children has anything to do with the presence of normal antitoxine, and, moreover, he finds that the antitoxine present after convalescence disappears.

**A very Grave Case of Puerperal Streptococcic Infection in which Injections of Marmorek's Serum resulted in Recovery.**—In the July number of the *Revue de médecine* M. Ausset and M. Rouzé gave a detailed account of this case, in which, they said, the streptococcic infection could not have been more serious; it was a veritable septicæmia and it seemed as if the patient must succumb to the disease, but the very gravity of the infection had seemed to them an indication for the employment of Marmorek's serum.

The patient's blood seemed to have been poisoned by the microbe and by the toxines; and it appeared that curetting of the uterus would only lead to disastrous results. After four injections containing in all fifty cubic centimetres of serum, the disease was arrested. The authors add that they did not observe any symptoms in consequence of these injections, not even urticaria.

**Cancer of the Stomach treated with the Roentgen Rays.**—In the *Lyon médical* for August 9th M. Despeignes refers to a case, a full report of which appeared in the same journal for July 26th, in which the Roentgen rays were employed in the treatment of this disease. At that time, he says, a notable amelioration was observed, but unfortunately it did not continue. From the 12th of July, in fact, cachexia was re-established, and from the 22d to the 24th, on which date the patient died, there was an abundant diarrhoea with involuntary stools. Repeated injections of artificial serum and nutritive enemata were given, but they were of no avail. The Roentgen rays, however, continued to diminish the size of the tumor, and at the time of the patient's death it was considerably smaller.

From this experiment, says the author, three facts may be concluded: The treatment considerably ameliorated the general condition and prolonged the patient's life for fully two weeks, it absolutely suppressed the pain near the tumor, and, finally, it notably diminished the volume of the growth.

M. Despeignes thinks that the amelioration of the general condition may be mainly attributed to the injections of artificial serum, for when they were suspended at the patient's request, because they were painful, the general condition became worse. With regard to the



cessation of the pain, when the morphine injections ceased to have any further action, it did not seem possible to attribute the relief from pain to any other cause but the employment of the Röntgen rays, for from the beginning of the first sitting the pain ceased entirely. Before the employment of the rays the patient took daily doses of four ounces and a half of chloroform water, and very often two pills containing three quarters of a grain of extract of opium, and he frequently had one or two injections of morphine hydrochloride. After the employment of the rays the use of the opium pills was discontinued and only very small quantities of chloroform were given for two or three days. In regard to the diminution of the size of the tumor, says M. Despeignes, the action of the rays was still more distinct. As there was no autopsy, it was impossible to say what part of the tumor was influenced by the rays, but it is certain, he thinks, that the regression did not take place on the surface alone, but that the action of the rays was felt in the cancer; the epigastric region, which had been very much swollen on the 4th of July, was almost flat at the time of the patient's death. This diminution extended also to the right extremity, on the part which encircled the left lobe of the liver; when death occurred it was found on palpation and percussion that this lobe of the liver was completely free; and it seemed as if the cancer had completely disappeared, on that side at least, for, says the author, if the regression had taken place in the stomach only, it is probable that the contrary would have been the case. In the presence of these results, and although the termination was fatal, he asks, may there not be hope, if not of recovery, at least of a considerable prolongation of life by employing this treatment if the cancerous affection is not advanced, or is one in which the progress is not rapid?

M. Despeignes says he would not hesitate to use the rays in other cases of cancer of the stomach; furthermore, he strongly advises the employment of injections of artificial serum from the very beginning, and says that they should not be suspended under any pretext, for they contribute not a little to the amelioration of the general condition.

**The Marion Sims College of Medicine and the Medical Mirror, of St. Louis.**—We have received a proof slip of an editorial article in which Dr. I. N. Love, the editor of the *Medical Mirror*, announces that, after having served as a member of the faculty of the Marion Sims College of Medicine from the beginning, having been one of the charter members, and having seen the college develop until it is now recognized as one of the leading medical colleges of the West and South, he has tendered his resignation.

He says he has felt for two or three years past that his duty to himself and his own best interests lay in this direction, but a hesitancy in withdrawing from pleasant association with his colleagues until the success of the institution was secure has postponed the action. He says that in his letter of resignation he expressed his regrets and a warm personal regard for the faculty individually and collectively, and announced that his private practice, together with his conduct of the *Medical Mirror*, was such as to demand a more complete concentration than was possible with a continuance of college work. The resignation was accepted, with expressions of appreciation and good wishes. And now, being relieved to a degree of the inconvenience of having too many irons in the fire, Dr. Love feels that the *Medical Mirror* will be the gainer.

When he established the *Medical Mirror*, six years ago, he says, he announced that he had started upon a life work, and this determination has been strengthened as time has passed. He is ambitious not only to make the *Medical Mirror* one of the best medical magazines in the world, but to have it read by more doctors than any other. Plans that are under way now, he adds, will soon be consummated in the direction of the accomplishment of this end.

In saying good-bye to the Marion Sims College of Medicine and its faculty expresses in the most emphatic manner the hope that as the years come and go, the reputation of the college may go on increasing.

**The Treatment of Myopathy with the Thyroid Gland.**—In the *Revue internationale de médecine et de chirurgie* for August 10th, M. H. Meige states that M. Lépine has employed this treatment in two cases of myopathy and obtained successful results. To one patient, forty-four years old, who had suffered for eight years with the disease, two ounces daily, on an average, had been administered every week for a period of two months. The fresh gland was mixed with powdered marsh mallow. Amelioration had taken place in about two weeks after the beginning of the treatment. The patient felt stronger and had been able to walk alone, which he had not been able to do for some time.

In the second case M. Lépine ascertained that if the thyroid treatment did not improve the atrophy, it, on the other hand, considerably ameliorated the condition of the muscles, which had been affected for some time.

**Common Salt as a Cause of Bright's Disease.**—Dr. Giuseppe Levi, of Florence (*Sperimentale*, 1895, No. 3; *Deutsche Medizinisch-Zeitung*, August 6, 1896), has attempted to throw some light experimentally on a question raised by Bunge in his *Lehrbuch der physiologischen Chemie*, that of whether the work of excreting large amounts of sodium chloride did not irritate the kidneys, so that salt as well as alcohol might be classed as an excitant of nephritis. From experiments on dogs and rabbits, Levi comes to the conclusion that large amounts of common salt, from one to four grammes daily for each kilogramme of the animal's weight, given for a length of time, do give rise to renal lesions, but he does not speak of them as constituting nephritis, although mild inflammatory appearances were not wanting. Both the epithelia and the connective tissue were affected, alone or together. The lesions were similar to those attributed by other authors to various toxic substances.

**Citric Acid in the Treatment of Diphtheria.**—Dr. Bloch (*Ugeskrift for Læger; Deutsche Medizinisch-Zeitung*, August 10, 1896) reports that he has treated a hundred and fourteen cases of diphtheria with a ten-per-cent. solution of citric acid given by the mouth. Eleven deaths occurred, a mortality of 9.6 per cent. Fifty-six of the cases were mild, twenty-seven were of very doubtful prognosis, and thirty-one were decidedly grave. Four of the deaths were due to sepsis, one patient died after tracheotomy, and one died of paralysis of the heart during convalescence. Of the eleven who died, as many as five were not brought to the hospital until the disease had been running from four to seven days. According to the patient's age, Dr. Bloch gives from a teaspoonful to a tablespoonful of the solution every two hours. In the beginning and in severe cases, smaller doses are given, but more frequently, as often as every half hour day and night. In these cases warm applications are employed externally, and wine is given.



## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.

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#### LECTURE III.—ANGINA PECTORIS VERA.

##### PHENOMENA OF THE ATTACK.

(Concluded from page 284.)

**RESPIRATORY FEATURES.**—We have here to consider several important points—the symptoms in the attack, the relation of cardiac asthma to angina, and the interesting group of cases of chronic pleuro-pulmonic affections in which anginalike attacks of great intensity occur.

(a) In the attack, except slight acceleration in the movements, there may be no special changes. You will remember, in reading John Hunter's case, that, as he expressed it, he felt as though he had forgotten to breathe; and a patient may feel some sort of relief from the pain by voluntarily fixing the chest at the full inspiration, or by making a very forced expiration and holding the breath. In a lethal attack the respiration may become slowed and sighing, and a few gasps follow the abrupt cessation of the heart's action. One of the most remarkable features of the attack to which the attention was early called is the development of a bronchial asthma. Erasmus Darwin\* called the disease painful asthma—*asthma dolorificum*—without, so far as I can see from his account, any justification. On auscultation one hears over the chest numerous sibilant râles, and the breathing may become labored and expiration much prolonged. Huchard likens it to a condition of acute emphysema. In Case XXXII, which I gave you in full at the last lecture, the attacks of shortness of breath with piping râles formed a very distressing feature in the case. The expectoration was muco-purulent; Curschmann's spirals were never found. Throughout the illness, which persisted for several weeks, this condition continued, and was the cause of much annoyance. Though Heberden does not refer specially to the asthma, he speaks of two patients who had spat up blood and matter. Many patients have referred particularly to the "wheezing" which has accompanied the attacks. Goodhart,† who describes the condition as an acute bronchitis, thinks it of very grave prognosis. The same bronchial wheezing is present in some cases of cardiac asthma and doubtless gave the name to this symptom.

(b) Cardiac asthma may develop during an attack or alternate with the paroxysms of pain. In another lecture I shall speak more at length on the relations of this feature to angina, particularly to the angina pectoris *sine dolore*. Here I wish only to call your attention to

the distressing spells of dyspnoea, chiefly nocturnal, which may come on in the subject of angina, either independently of or following an attack. In the cases with advanced arterio-sclerosis the cardiac asthma may be the most pronounced and distressing feature, disturbing the patient nights, making him dread to fall asleep, owing to the horrible sensations which accompany the awakening in a paroxysm of dyspnoea. The subject may die in an attack of angina after a long series of asthmatic seizures. Case XXIII, Dr. —, aged forty-seven years, from Santa Fé, N. M., had advanced arterio-sclerosis. Fifteen months before his death he had an attack of angina; then for a year he had many attacks of cardiac dyspnoea, chiefly nocturnal, and once had transient hemiplegia with aphasia. He died after several paroxysms of terrible angina, recurring in the course of twelve hours.

Cardiac asthma is an everyday symptom in the course of chronic valve disease and cardio-sclerosis. In hospital practice it is as common as angina pectoris is rare. It may recur in paroxysms very like angina pectoris, in one of which the patient may die. Dreschfeld reports\* the case of a woman, aged forty-nine years, who, when younger, had been hysterical, and later very neurasthenic. Suddenly, one night she was seized with severe dyspnoea, without any cardiac pain. A week later she had a second attack, again without pain, and in a third attack, the following night, she died. There was a fibrous myocarditis at apex of left ventricle, and the left coronary artery was greatly narrowed by an atheromatous plate.

Cheyne-Stokes breathing is met with in the intervals between very severe attacks, as in Cases XXIII and XXXII, or is one of the manifestations of an advanced arteriosclerosis, as in Cases V, XI, and XIII.

(c) The term *respiratory form* of angina pectoris has been applied to cases of cardiac asthma, such as the one reported by Dreschfeld. I think the term more appropriate to that interesting group of cases in which the subjects of chronic pulmonary or pleural disease have agonizing paroxysms of pain about the heart, evidently of the nature of angina, and which may prove fatal.

Let me mention several illustrative cases:

**CASE IX.**—On February 12, 1891, I was consulted by a healthy, vigorous-looking man, aged thirty-three years, who complained of shortness of breath and attacks of agonizing pain in the chest.

In 1876 he had pleurisy on the right side, for which he was tapped repeatedly. The effusion becoming purulent, opened spontaneously, and the fistula took a long time to heal. He gradually got strong and well, and remained so for nearly ten years. In 1887 he began to have attacks of shortness of breath at night, with pain in the chest. At first there was no shortness of breath during the day except on active exertion. In the year 1888 the attacks recurred at intervals. In 1889 and

\* *Zoonomia*, third ed., 1801, p. 41.

† *Guy's Hospital Reports*, vol. xlv.

\* *Practitioner*, vol. xlv.

1890 he was very much incapacitated by them, as there was great pain and shortness of breath on attempting any extra exertion. The attacks came on with a feeling of great oppression in the chest, and a sense of overpowering constriction and uneasiness in the region of the heart. The pains never extended down the arms, but they passed up the neck to the head. Of late they have recurred at night with great regularity, so that he dreads to go to bed. He goes to sleep quietly, dreams a good deal, but always, prior to waking in pain, there is great excitement in the dreams, and he feels pressure on the eyeballs and forehead, which gradually increases until it awakes him. Then he arouses in terrible agony in both the chest and head, and the sweat pours from him. The paroxysm lasts from five to ten minutes, and he has often had to take chloroform. During these nocturnal attacks there is no shortness of breath, only the agonizing pain in the region of the heart and passing up the neck to the head.

On examination the patient showed an extreme grade of contraction of the right side, with lateral curvature of the spine, flattening in the mammary and axillary regions, with scarring in the seventh, eighth, and ninth spaces, where the empyema had perforated. On percussion there was flatness everywhere over this side; the left side was hyperresonant. The apex beat was not visible; the heart impulse could be felt with moderate force at the lower sternum. The heart sounds were perfectly clear and quite natural. The pulse was regular; the vessels were not sclerosed. There was no tracheal tugging, and the manubrium was clear on percussion. On rapid exertion the face became a little flushed, but no murmur developed over the heart. The urine was clear. The abdomen was distended, the right costal border was curiously everted from contraction of the chest, and the liver was drawn up very far. A short time after his visit to me the patient died suddenly in a paroxysm.

The following is a much less severe form of the same trouble:

A clergyman, aged forty-four years, came under my care April 20, 1892, with signs of local disease at the apex of the right lung. He was a vigorous, wiry looking man, who had had tuberculosis for several years; but the feature which incapacitated him for work was the occurrence during excitement, and especially when preaching, of attacks of indescribable distress about the heart, which on several occasions almost caused him to faint. It was not a sharp pain, and there was no radiation, but he described it as a feeling as though the heart would burst or break, and an entire impossibility to proceed with his sermon, or with his address. It was not accompanied with any shortness of breath, and though the signs of tuberculosis and of some compensatory emphysema were quite marked, yet it was this special symptom for which he sought relief, as by it he was incapacitated. The apex beat was not visible. The heart sounds were clear; there was no sign of hypertrophy, and the aortic second sound was not accentuated. The arteries were sclerotic, and the pulse tension was considerably increased.

The condition which this patient described, though probably not true angina, is of interest in connection with this subject. Public speakers and others who have to address audiences not infrequently complain of a peculiar sensation in the region of the heart, sometimes only an exaggeration of the ordinary embarrassment

which so many of us feel, but in other instances there may be, with an increased peripheral vasomotor contraction, quite evident in the pallor of the face, a summation of cardiac distress which becomes almost unbearable. I know of one professional friend who rarely can get up to speak in a meeting without considerable cardiac pain.

Cases of chronic pleurisy, tuberculous or otherwise, are very apt to have severe anginalike attacks. I have called your attention in the wards to Mary C., aged twenty-four years, with chronic bilateral pleurisy, who came under our care first in December, 1890, with an effusion on the right side. She has had lately severe attacks of pain in and about the heart which have come paroxysmally, but had never had the intensity of true angina. I saw this winter a woman, aged thirty-six years, who had had a pleurisy on the right side of thirteen years' duration, with chronic disease of both apices, and considerable enlargement of the heart. She had had shortness of breath, and occasional pain about the heart on exertion. She died in an attack of acute dilatation of the heart, associated with a great deal of substernal pain, much pallor, and sweating.

GASTRO-INTESTINAL SYMPTOMS.—Nausea not infrequently accompanies the attack, and the patient may vomit. Heberden notes that "persons who have persevered in walking till the pain has returned four or five times have then sometimes vomited." As an attack ends the patient may belch quantities of gas, or pass flatus from the bowel, both with apparently great relief.

Flatulency was regarded by Butter as "the most obvious and the most regular exciting cause." Parry, too, laid great stress on the influence of eructations in mitigating the pains produced by "mal-organization of the large vessels," and quotes Morgagni to the effect that the vulgar, and even the physicians, thought the disease originated in the flatulency. There is another important relation of the gastro-intestinal features of angina pectoris. When the pain is situated in the scrobiculus cordis, and associated with eructations and dyspepsia, the diagnosis of gastralgia may be made. There are several very interesting papers on this question in the literature. Leared\* described a series of cases of "disguised disease of the heart" in which the "heart affection was so strangely masked by that of the stomach that nothing in the statements of the patients had any bearing on the primary disease." In several of his cases sudden death followed. Barié† has written an elaborate paper on the cardio-pulmonary features of gastro-hepatic disorders. The attacks of pain in some of his cases simulated closely angina. Huchard has a special section on what he called the *pseudo-gastralgic* form of angina.

In only two cases in my series were the gastric symptoms of such intensity that the affection was at first thought to be in the stomach.

In Case XIX the pains were at first altogether in the

\* *Medical Times and Gazette*, 1867, i.

† *Revue de médecine*, 1882.

upper part of the abdomen, and as they were of sufficient intensity to cause vomiting she was thought to have gastralgia. It was not until dyspnoea came on, and the pains became centred about the heart and extended to the neck and arm, that the diagnosis of angina was made.

In the following case the patient, a most intelligent man, insisted that the entire trouble was in his stomach.

CASE XXVII.—Mr. W., a merchant from North Carolina, was referred to me by Dr. Whitehead, October 26, 1893, complaining of severe attacks of pain in the abdomen and lower part of the chest. He was sixty-seven years of age, and of excellent family history. All his life he had had occasional attacks of indigestion.

On the 17th of June, 1893, after helping a servant to carry a heavy trunk upstairs, he felt a sensation at the pit of the stomach as if he had wrenched himself badly. A few days later, while walking up a hill, the sensation of pain in the stomach returned, and a week later, while walking fast to catch a train, he had very severe pain and shortness of breath. The taking of food apparently made no difference to the pain, but he had a good deal of belching of wind, and he insisted upon regarding the condition as altogether due to his stomach. Dr. Whitehead, in describing the case, stated that the pain began in the epigastrium and passed directly to the backbone; if very severe, it spread over the thorax; "asthma comes on; there is tingling sensation in the left hand, and violent pains are felt in the arms. The agony is simply terrific." He never had any nausea or vomiting in the attacks. The patient was a very well preserved man; the radials were firm, tension was increased, and the radial pulse was anastomotic. There was no excessive cardiac impulse, the area of dullness was not increased, but the subcutaneous fat was very excessive. With the exception of a soft apex systolic murmur, auscultation gave no indications. The second sound over the aortic region was of medium intensity. The examination of the abdominal organs was negative. There was no dilatation of the stomach and the gastric juice was normal. The note which I made with reference to the nature of the case at the time was as follows: "Though the possibility has been entertained that Mr. W. has gastralgia, due either to ulcer or cancer, it seems to me much more likely that he has angina pectoris." He was ordered iodide of potassium; and throughout the winter of 1893-'94 he did very well, and he could walk a distance of two or three blocks without suffering pain.

On July 2, 1894, after eating a much heartier dinner than usual, he went out to pay a visit, and on leaving the door of the house fell forward on the verandah and died in a few moments.

Another by no means uncommon and often very distressing symptom is persistent hiccough.

A symptom described by some writers has been the constant desire to urinate—urina spastica—and there may be a very large amount of urine passed. Griffiths and Massey\* profess to have separated a special leucomaine from the urine passed during the attack.

NERVOUS AND PSYCHICAL SYMPTOMS.—The mental anguish has been described. A sense of faintness almost invariably accompanies severe attacks, and actual loss of consciousness, syncope, may follow, upon which feature

I have already dwelt. There are interesting psychical manifestations in angina pectoris upon which you will not find much in the literature. They are features of the myocarditis, rather than of the angina, and develop with the progressive weakness of the heart. In Case V the patient had delusions of a most painful nature for nearly six weeks, during which time he had an exceedingly feeble heart, with gallop rhythm. He recovered and lived for three years. In Case VIII the patient thought that he was in a strange house and begged constantly to be taken to his home. You remember that in Case XXXII there were occasional delusions.

Trousseau believed that there was a close relationship between angina pectoris and epilepsy: "In some cases, and perhaps in a pretty good number of instances according to my experience, angina pectoris is an expression of this cruel and fearful complaint, and is a variety of the vertiginous form of the disease—in other words, it is an epileptiform neuralgia. Its invasion is as sudden, its progress as rapid, and its disappearance as sudden, and, as I have already told you, it is not of very uncommon occurrence to find persons who have in former years suffered from angina pectoris become subject afterward to epileptic fits, just as in other instances angina pectoris has been preceded by well-marked epileptiform seizures."\* Quite recently Richardson† has urged that angina pectoris is a special disease, of a paroxysmal nature, as distinct as epilepsy and partaking in many ways of its features—a sort of epileptic counterpart in the sympathetic system. The two diseases may co-exist. We have to distinguish between the attacks of nervous palpitation with cardialgia in epileptics, not infrequent symptoms, and attacks of true angina. The only instance of combination of the two disorders which I have met is the following:

CASE III.—An engraver, aged forty-eight years, was admitted under my care to the University Hospital, Philadelphia. He had served in the army during the war of secession, and entered the navy as a marine in 1871. After a blow on the side of the head, in the latter part of 1873, he was insane for several months and required constant watching. He recovered, but has had ever since, at intervals, epileptic attacks, and he has frequently been picked up unconscious on the street. For the past four years he has had also violent pains in the chest with choking sensation, difficulty in swallowing, and shooting pains down the left arm. He does not lose consciousness during these attacks, but they are evidently of terrible severity, and he feels in each one as if he were about to die. He has a well-marked aura preceding the epileptic fit, which starts in the lower part of the chest, but he is not aware of any close association between the epilepsy and the attacks of angina. The patient was in a very bad condition on admission, almost pulseless at the wrist, but after the administration of whisky and digitalis he revived, and in a few days seemed quite himself again. He had hypertrophy of the heart, with aortic insufficiency.

\* *Clinical Medicine*. New Sydenham Society edition, vol. i. p. 662.

† *Asclepiad*, vol. xi.

\* *Comptes rendus, Acad. des sciences*, 1895, 1128.



There was in the wards last June (1895) a colored man, aged thirty-four years, who had remarkable attacks of pain about the heart with unconsciousness. He was a healthy-looking fellow, the pulse was not slow, the tension was increased, but the radials felt a little hard. The heart was not enlarged; the aortic second sound was a little accentuated. The urine was normal. He had probably had syphilis. Eight years ago he began to have pains about the heart, and from July to September the attacks were so severe that he was unable to work. In December they returned, and ever since, at intervals, he has been subject to them. Any extra exertion, such as walking fast up hill, or mental excitement will cause severe pain, exactly under the left nipple, often of great severity. In March of this year, while working in a stable, he felt a sudden agonizing pain in the heart, became giddy, and fell to the floor unconscious. He did not bite his tongue, and, so far as we know, he did not "work" the muscles or foam at the mouth. On June 17th he had a second attack, with very much more pain about the heart, which lasted for five or ten minutes before he became unconscious. On the 24th he was walking on the street, felt a severe pain and great oppression about the heart, and then fell unconscious and was brought to the hospital by the police patrol. The loss of consciousness lasted several hours. He had no attacks while in the ward, and it seemed impossible to determine precisely the nature of the case—whether the so-called cardiac epilepsy, or an anomalous type of angina pectoris. Newton\* has reported an interesting case in which very probably both the epilepsy and the angina were associated with syphilis.

## Original Communications.

### THE PRODUCTION OF IMMUNITY TO HOG CHOLERA

BY MEANS OF

#### THE BLOOD SERUM OF IMMUNE ANIMALS.

ANTITOXIC SERUMS FOR HOG CHOLERA AND  
SWINE PLAGUE.

By E. A. DE SCHWEINITZ, Ph. D., M. D.

In the *Medical News* of September 24, 1892, I published the results of some experiments made upon guinea-pigs with the blood-serum of immune guinea-pigs, which proved that an injection of such serum would protect other guinea-pigs from hog cholera. Subsequently Dr. Theobald Smith and Dr. Moore conducted some similar experiments with rabbits, and, while these were not made entirely immune by the quantity of serum used, they showed great resistance to the disease. They did not carry this work upon rabbits further, though the indica-

tions were that immunity would have been produced had the doses of serum been larger.

As an accidental result of an experiment to show if the products of the *Bacillus coli communis* would serve to immunize against hog cholera, our experiments have been continued to see if the blood of the immunized hog would also induce immunity in other animals, as guinea-pigs, against hog cholera. The results proved that such immunity could be secured.

June 13, 1895, guinea-pigs were given blood serum from an immune hog (No. 151, killed June 11, 1895).

No. 425, weight 11 oz., received	3.0 c. c.
" 426, " 9 " "	4.5 " "
" 423, " 11 " "	1.5 " "
" 422, " 9 " "	0.5 " "
" 424, " 8 " "	2.0 " "

On June 15th pig No. 424 was found dead from blood-poisoning.

On June 20th pig No. 425 was found dead from blood-poisoning and pleurisy. On June 19th, 1895, two pigs were inoculated with the nucleinlike substance obtained from the same serum that was used to inject the other guinea-pigs. Each pig received 0.06 gramme of the supposed active principle of the blood.

No. 416, weight	3½ oz.
" 417, " "	14 " "

June 28, 1895, two checks, Nos. 442 and 443, and treated pigs Nos. 416, 417, 422, 423, and 426 were inoculated with a one tenth cubic centimetre hog-cholera culture on peptonized beef broth one day old.

July 5, No. 416 was found dead,	
" 8, " 417 " " "	
" 5, " 442 " " "	
" 3, " 443 " " "	

all upon autopsy showing characteristic hog-cholera lesions.

The other inoculated animals appeared to recover and were well. On December 21st, six months after exposure to the disease, guinea-pig No. 426 was found dead. Autopsy, however, showed that the animal had died from pneumonia.

Again, December 26, 1895, serum from hog No. 150 killed, and serum collected December 24th was used to inject two pigs:

No. 73, weight 16 oz., received	3.0 c. c. serum.
" 51, " 17 " "	4.5 " "

On January 25th these pigs, checks, and Nos. 379, 377, and 376, the latter inoculated last in May, received one tenth cubic centimetre hog-cholera culture.

On January 31st Nos. 73 and 51 and checks were found dead from hog cholera, while the others, although apparently a little ill for a few days, had recovered.

These experiments show that an immunizing substance is produced in the blood of the protected hog; that, while the animal itself may remain immune to disease, as is shown by the guinea-pigs, its blood will have lost the power of conferring immunity to other animals. This confirms the conclusion in other diseases in the

\* *Medical Record*, 1893, 1.

use of blood serum, that the immunizing principle of the blood serum can be kept constant only by having the animals reinoculated from time to time. Apparently the antitoxic substance can be the product of cell activity only. So long as the animal is kept inoculated with the toxine or the germ, not only does the immunity of that particular animal continue, but the antitoxic substance is found in the blood. After some intermission the antitoxic substance is contained in the blood, only in small amount, but the immunity of the individual still continues. In the use of antitoxic serum, therefore, its efficacy lies in the fact probably that, counteracting the poison first produced by the germs, it gives the cells the opportunity to recover their temporarily weakened activity and supply more antitoxic substances. The experiments prove that the serum of immune hogs can produce immunity in guinea-pigs, and that a distinctive antitoxic substance must be formed.

This conclusion as to a distinctive antitoxic substance was confirmed in the following experiments, in which antitoxic serums were used in an attempt to cure both hog cholera and swine plague in guinea-pigs.

The antitoxic serum for the hog cholera was obtained from a cow which had been treated by Dr. Schroeder, for some time, at the experiment station of the bureau.

#### March 9th:

Guinea-pigs.	
No. 223, weight	12 oz.
" 222, "	17 "
" 221, "	11 "
" 220, "	12 "
" 219, "	17 "

Each received a cubic centimetre and a half of serum from cow No. 24.

16th: No. 221 died from pneumonia.

#### 18th:

No. 223, weight	14 oz.
" 222, "	19 "
" 220, "	11 "
" 219, "	18 "

Each received three cubic centimetres of serum.

#### 23d:

No. 219, weight	17 oz.
" 222, "	17 "
" 246, "	9½ "
" 242, "	10½ "
" 243, "	10½ "

Nos. 219 and 222 each received a cubic centimetre and a half of serum and the remainder three cubic centimetres of serum each.

#### 28th:

No. 242, weight 12 oz., received	3·0 c. c.
" 243, " 12 " "	3·0 " "
" 246, " 11 " "	3·0 " "
" 223, " 13 " "	4·0 " "
" 219, " 18 " "	4·5 " "
" 222, " 18 " "	6·0 " "

of the same serum.

On March 20th No. 220 had been found dead from pneumonia.

On April 9th the following pigs were inoculated with a one tenth cubic centimetre of hog-cholera culture each.

No. 230, weight	23 oz.
" 222, "	10 "
" 223, "	12 "
" 242, "	13 "
" 243, "	13 "
" 246, "	12 "
" 260, "	12 " check.
" 261, "	12 "
" 262, "	15 "
" 263, "	20 "
" 264, "	14 "
" 241, "	15 " check.

#### April 11th:

No. 261 received	3·0 c. c. serum.
" 262 "	3·0 " "
" 263 "	5·0 " "
" 264 "	4·5 " "

#### 14th:

No. 261, weight 11 oz., received	3·0 c. c. serum.
" 262, " 13 " "	3·0 " "
" 263, " 17 " "	4·5 " "

17th: No. 260 check was found dead from hog cholera.

19th: No. 222 was found dead from hog cholera.

20th: No. 264 was found dead from hog cholera, autopsy showing characteristic post-mortem appearance except a slight complication with pneumonia.

25th: No. 241 check was found dead from hog cholera. Nos. 219 and 223 were also found dead, showing evidence of pneumonia in addition to hog cholera, and No. 261, found dead on April 25, 1896, showed upper lobe of right lung consolidated from pneumonia, in addition to coagulation necrosis of the liver. There had been quite an outbreak of pneumonia among the guinea-pigs, which accounted for these lesions. Of the entire number of pigs, therefore, of those that had been previously inoculated with serum, three animals (Nos. 243, 242, 246) that had been vaccinated with six cubic centimetres each of serum and two (Nos. 262 and 263) that had received six and eight cubic centimetres of serum each after inoculation, recovered from the disease. Had the pigs not been exposed to infection with pneumonia it is likely all would have recovered.

This experiment, repeated later, showed that while the blood contained an antitoxic principle, the amount was not sufficient to cure the disease by the injection of sufficiently small doses, and we are now endeavoring to increase the amount of antitoxine in the blood of the cow.

As my experiment in 1891 with the products of the swine-plague germ had shown that these could be used for the production of immunity, and subsequently Dr. Smith and Dr. Moore had satisfactorily produced immunity by the inoculation with serum from immune

animals, it was very reasonable to suppose, when the nature of this disease is remembered, that an antitoxic serum for swine plague could be easily obtained. A cow was again used for the source of the serum after she had been repeatedly inoculated. The preliminary tests were made upon rabbits. A twentieth cubic centimetre of a peptonized beef-broth culture of swine-plague germ was sufficient to kill a rabbit in fifteen to eighteen hours. Several sets of experiments showed that while the checks died within the required time other rabbits, inoculated at the same time and with the same quantity of culture, could be kept alive from six to ten days longer than the checks by the injection of nine cubic centimetres of serum per pound weight. As an antitoxic substance was present in the serum, therefore, I tried its effects upon guinea-pigs. One tenth cubic centimetre of the culture used was sufficient to kill a guinea-pig in forty-eight hours. The experiment was as follows:

July 10th:

Guinea-pigs.

No. 348,	weight 12 oz.,	check, received.	$\frac{1}{10}$ c. c. swine plague culture.	
" 349,	" 8 "	" .. 3 "	" "	serum.
" 350,	" 11 "	" .. 5 "	" "	"
" 351,	" 9 "	" .. 6 "	" "	"
" 352,	" 8 "	" .. 6 "	" "	"
" 353,	" 8 "	" .. 12 "	" "	"

On July 20th the check was found dead. On July 29th the pig that had received the serum alone was found dead, autopsy showing peritonitis, pleurisy, and pericarditis, which were apparently produced by the large dose of serum. The pigs receiving the antitoxic serum recovered, according to the doses given, six cubic centimetres per pound weight being required to check the disease.

I next tried, with the assistance of Dr. Dorset, to isolate the antitoxic principle from the serum, according to a method given by Bieger and Boer for the isolation of diphtheria antitoxine (*Zeit. für Hyg.*, Bd. xxi, Pt. 2) by the use of zinc sulphate, repeated solution in NaOH, and precipitation with CO<sub>2</sub>. In this way from ninety cubic centimetres of serum we obtained 1500 grammes of a white, practically ash-free powder.

The antitoxic properties of this substance are now being tested.

In one set of experiments guinea-pigs inoculated with hog cholera were given swine-plague serum, and other pigs inoculated with swine plague were given hog-cholera serum. These serums were without effect, except in case of their corresponding disease, showing again their independent character—the swine-plague serum from swine plague only, and the hog-cholera serum from hog cholera only. These preliminary experiments serve to show us that specific antitoxic serums for hog cholera and swine plague may be obtained. A more detailed account of these and other results will be published as a department bulletin.

DEPARTMENT OF AGRICULTURE, BIOCHEMICAL LABORATORY,  
BUREAU OF ANIMAL INDUSTRY, WASHINGTON, D. C., July 30, 1896.

## RECENT ADVANCES IN THE SURGICAL TREATMENT OF MALIGNANT DISEASE OF THE LARYNX.\*

By D. BRYSON DELAVAN, M.D.

WHILE operations for the relief of the less malignant forms of laryngeal growths have often proved successful, the radical treatment of epithelioma of the larynx heretofore has practically resulted in failure. True, in a few brilliant exceptions, life has been lengthened and the comfort of the patient materially increased by the removal of the whole or a part of the diseased organ. A careful survey of the subject, however, will compel the admission that, in general, the lives of patients suffering from epithelioma of the larynx have been shortened rather than lengthened by the efforts of the surgeon. This statement is based upon the fact that the average duration of life in such cases, without attempted removal of the larynx, is about a year and a half. The number of cases in which the subjects of laryngectomy have survived for double that length of time is very small. In view of the total failure of other methods of relief, we are obliged at present to regard surgery as the only possible resource, and, in spite of the above-mentioned facts, rely upon its aid until something better has been proposed. It is of the highest importance, therefore, that the possibilities attending operative measures be appreciated and improved.

Fortunately, indications are not wanting that there exists for this class of operations a not altogether unpromising future. Here and there a case is reported which among many failures proves the exception to the rule in that the result of operations has been actually to prolong the patient's life. Within the past year three papers have been published in which the proportion of successful operations has been unusually large, and while the actual number of patients operated upon has been too small to establish any positive conclusions, and the dates of most of the operations have been too recent to admit of a complete study of the cases themselves, there can be no question that the work recorded in them is, on the whole, worthy of careful consideration. The varieties of operation which have lately challenged attention by reason of the improvements which they have offered may be divided into three groups: (1) Thyrectomy, with or without partial laryngectomy, (2) complete laryngectomy by the method adopted in Solis-Cohen's case, and (3) complete laryngectomy in cases of extensive laryngeal disease with glandular involvement. Examples of all three are beginning to multiply to such an extent that it will not be long before we shall have a collection of details sufficient to afford a fairly positive knowledge of their real value, together with a fund

\* Read before the American Laryngological Association at its eighteenth annual congress.



of technical knowledge relating to the subject which can not fail to be of material aid for future guidance.

A short consideration of these methods may not be without interest. The first variety, while advocated by many surgeons here and abroad, has been studied and practised in this country chiefly by Professor Clinton Wagner, of New York, and by Mr. H. T. Butlin and Dr. Semon, of London. It consists in performing thyrotomy and removing as much of the diseased tissues as may be necessary. Mr. Butlin, in the main agreeing with many of the best surgeons of the day, has advanced the following propositions:

1. Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by an operation in the absence of a decided indication to the contrary, and the operation should be performed with the least possible delay.

2. Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within reach of free removal, justifies an exploratory thyrotomy in a suitable patient, in the absence of infiltration of the surrounding structures and of affection of the lymphatic glands.

The method of operating pursued by Butlin and Semon has been described in their published writings. It applies distinctly to cases in which the disease is absolutely confined to the interior of the larynx. Preliminary tracheotomy is done, with the insertion of the tampon cannula and its careful adjustment. The anterior part of the thyroid cartilage is laid bare with scalpel and raspatory, it is opened exactly in the median line, and the two sides of the larynx are held apart, preferably with two strands of strong silk inserted through the anterior parts of the lateral wings of the thyroid. After the latter has been split open, undue violence in holding the halves apart must be strictly avoided. At this stage it will generally be necessary to protect the parts from mucus and saliva by packing the lower part of the pharynx with a large aseptic sponge secured by a string and passed through the laryngeal wound upward. There are two recommendations upon which Semon lays special stress: First, the surgeon should be provided with a forehead reflector and a good light, and, as has already been suggested by the writer for deep operations in the pharynx, he should, if possible, have at hand a small two- to four-candle-power electric lamp, to be used for the purpose of securing the best possible illumination of the interior of the larynx for the detection of every possible bit of diseased tissue. Secondly, before he begins the removal of the growth the whole side of the larynx to be operated upon should have applied to it a five-per-cent. solution of cocaine, for the purpose of contracting the capillaries on that side and preventing parenchymatous bleeding, which otherwise is sure to interfere with and greatly prolong the removal of the growth proper, while at the same time it may allow suspicious portions to remain behind.

The importance of the two above-mentioned measures is strongly insisted upon. The field of operation having been thus prepared, the diseased soft tissues are thoroughly removed to at least half an inch from the periphery of the growth, and, if necessary, the underlying cartilage is scraped or even removed, the base being firmly scraped with a sharp spoon. The use of the galvanocautery will seldom be required. Every source of bleeding having been stopped, the whole interior of the wound is dusted with pulverized iodoform, or with iodoform and boric acid in equal parts, and the tampon cannula is immediately removed. The whole of the wound is then covered with cyanide or iodoform gauze.

In cases where the more extensive resection of the thyroid or even extirpation of one half of the larynx is contemplated, the parts of cartilage to be removed should be freed from their perichondrium and from the surrounding soft parts, by means of an elevator. In other respects the operation is the same, only more extensive than mere thyrotomy with removal of soft parts. It is generally not necessary to prophylactically ligate the laryngeal arteries. Where the epiglottis or the aryteno-epiglottidean fold are diseased, the best means of access to them is subhyoidan pharyngotomy.

For after-treatment, both Wagner and Butlin immediately remove the tampon cannula, and from that time use no tracheal cannula whatever, and, the wound having been dressed as above described, the patient is not propped up in bed, but is placed horizontally on the side corresponding to the half of the larynx operated upon, with one small pillow under the head. Instead of plugging the wound with gauze, as formerly, Mr. Butlin dusts it at least twice daily for the first few days with the antiseptic powder by means of a powder insufflator. The application can be made to the best advantage when the patient is swallowing, as during the act of deglutition the wound in the neck is separated sufficiently to admit the end of the powder blower, so that the powder may be thrown from it directly against the raw surfaces, which should be thoroughly covered by it. The external covering of cyanide or iodoform gauze should be removed as often as wet by secretion. Although nutrient enemata may be required for the first few days, the experiment may be tried on the day of the operation, or soon thereafter, of allowing the patient to attempt to drink a little water while leaning with the upper part of the body well over the edge of the bed. In case of any impediment to the closure of the larynx during this act, the water will run directly out of the wound and no harm result; should the experiment succeed, milk may at once be taken in the same way, and the necessity for rectal feeding avoided. The external wound gradually closes by granulations, which may have to be stimulated by applications of nitrate of silver.

Clinton Wagner \* reports fifteen thyrotomies per-

\* *Medical Record*, January 4, 1896.

formed upon patients varying in age from sixty-four years to eighteen months. Five of the patients are now living, at periods of one year, one year plus, twelve years, twelve years, and seventeen years respectively. Of those not now living, one survived four years, two one year, one three months, and one ten weeks. In none of the latter cases was death due to the operation of thyrectomy. Classified as to diagnosis, four of them were cases of epithelioma; these patients lived, respectively, four years, one year, three months, and ten weeks; one case was one of echondroma, and the patient was alive when last heard from; three were papillomata and two cicatricial stenosis.

Of the cases of epithelioma reported by Dr. Semon, five patients died from the operation within periods varying from one to six days. One showed probable recurrence within four months. Of the remaining four, one operated upon by Hahn—by complete laryngectomy—lived six years and a half without recurrence, and died of heart disease. There are living and well one operated upon by Dr. Butlin at five years and a half, one at three years, and one at two years, the latter operated upon by Semon.

Comparing recent results with the general statistics lately reported by Powers—namely, eleven per cent. of recoveries in complete laryngectomy and thirteen per cent. of recoveries in partial laryngectomy—it will be seen that as to thyrectomy such a distinct advance has been made that its value, as at present performed, can not be questioned.

Turning now to the method of operation classified as number two, let me call attention to the patient named Daniel Hickey, who was operated upon five years ago by Dr. Solis-Cohen, of Philadelphia. In this operation, as in several similar to it by Poppert, Schmidt, Swain, and Carmalt, and possibly at this date others, the larynx was completely removed and the severed end of the trachea brought to the external edges of the cervical incision and there retained, communication between the lungs and the pharynx being thus totally and absolutely cut off. The great advantages of this plan over the usual methods have already been demonstrated to you.

1. The danger to life from inspiration-pneumonia is greatly lessened, owing to the shutting off of the mouth from the trachea.

2. Swallowing is accomplished with great ease and as freely as under ordinary circumstances.

3. In at least three cases thus operated upon the power of phonation has been acquired with a voice fully as satisfactory as that produced by any artificial appliance, and without either the inconvenience and discomfort of an artificial larynx or the danger to the adjacent parts from the irritation of its presence. The mechanism by which phonation is accomplished in these extraordinary cases has not been explained. Cohen's patient is able to make his voice distinctly heard from one

end to the other of the great hall of the New York Academy of Medicine.

4. The comfort of the patient is greatly increased, and the disfigurement of the other operation and of the wearing of the artificial larynx largely done away with. It is entirely probable that, under certain conditions, this method will prove to be the most satisfactory for complete laryngectomy of any yet proposed, and it is to be hoped that it may be given a sufficient trial to prove whether or not the cases already reported have been but the result of a happy accident rather than the first illustrations of a definite rule.

As to the third variety of operation, it has often been insisted that, in order to insure success, malignant disease of the larynx must be treated as early in its history as possible, and at least before involvement of the neighboring glands has taken place. Unfortunately, in the history of the past, early operation has not always saved life, and, on the other hand, several eminently successful cases have been in patients who suffered from a tolerably extensive condition of disease. The management of cases of extensive laryngeal disease, therefore, becomes a matter not only of great importance, but of lively interest, especially when it is remembered that perhaps a majority of patients are not seen by the specialist or surgeon until the disease has made considerable progress and the time most favorable for operation has passed.

Several years ago operations were attempted upon such patients with only here and there an exception to the inevitably and immediately bad result. Subsequently they were pretty generally left to their fate. Of late, under the influence of improved methods and increasing knowledge, a hope, small indeed, but worthy of all encouragement, has been aroused by the excellent work of several men. Prominent among these may be mentioned the name of Mr. Watson Cheyne, of King's College Hospital, London, whose efforts in this direction are now attracting much attention, and who, in his admirable Lettsomian Lectures\* upon The Objects and Limits of Operations for Cancer, delivered before the Medical Society of London last February, says: "As compared with cancer in the breast, the disease in the throat is in some ways more favorable for cure; in other ways, less so. Primary disease of the breast is by far the more favorable of the two, for there it is fully exposed to view, and there is plenty of room for its free removal without endangering important structures. In the mouth and throat, on the other hand, the disease is close to if not involving many important parts, the space in which one has to work is very limited, any considerable margin of healthy tissue can not be obtained, and the early spread of the cancer to muscle, especially in the case of the tongue, tends to distribute it over a considerable area. In the throat, moreover, the disease is much less favorable for operation, because the septic element comes

\* *Lancet*, February 15 and 22 and March 14, 1896.

into play, and thus, instead of having to do with an operation as in the breast, where the mortality is practically *nil*, we have to face a very considerable risk of death from septic disease. On the other hand, cancer of the mouth and throat is more favorable as regards the glandular deposits, for in the neck we have an extensive glandular area exposed to view which can be much more thoroughly dealt with than in the case of the breast. It is true that many surgeons look on the glandular trouble as a most serious part of the disease. With this I do not agree. In another respect cancer in the throat is more favorable than in the breast—namely, that in it metastatic deposits are infrequent.”

With regard to the neighboring lymphatics, Cheyne believes that they should be removed, as in cancer of the breast. It is seldom that no enlarged lymphatic glands can be felt in these cases, and usually they are of considerable size. Whether they can be felt or not, the lymphatic area should be cleaned out. Unless the lymphatic enlargement is very extensive, or adherent to a variety of structures in the neck, and not merely to the sheaths of the vessels, the operation will be more thoroughly done, and the patient will have a better chance of recovery and cure if enlarged glands are already present.

With regard to preliminary tracheotomy, Cheyne, agreeing with many other excellent authorities, does not believe in the insertion of the tube several days prior to the performance of the main operation. Personally, I do not think his ground upon this question well taken, the objection being that in three or four days after the insertion of the tube there will be a collection of septic matter around it which may get into the trachea after the performance of the main operation. Such an accident could probably be avoided by extending the time between the two operations to ten days or more. It is desirable, however, that this question—namely, when preliminary tracheotomy should be performed—should receive more careful attention than has hitherto been accorded it, as it is without doubt an important factor in the patient's welfare.

These three varieties of operation just described—namely, early thyrectomy with or without partial removal of the larynx, complete removal of the larynx, together with the extirpation if necessary of diseased glands, and, finally, the peculiar management of the trachea illustrated in the case of Dr. Solis-Cohen—may be said to finally represent the most recent additions to our present resources for the surgical relief of malignant disease of the larynx.

There is one question, however, which must challenge attention—namely, the second proposition offered by Mr. Butlin, that every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within the reach of free removal, justifies an exploratory thyrectomy in suitable cases, in the absence of infiltration of the surrounding structures and of affection of the lymphatics. Even in the case of so

experienced an operator as Mr. Butlin, this theory has not always proved a safe one, while in the hands of one less well qualified its dangers need only to be referred to. Indeed, probably nothing was further from the intention of its proposer than to advocate the performance of thyrectomy in every case of papilloma or of suspicious intralaryngeal disease. It is safe to say that were such a radical view generally adopted the amount of damage done would far exceed any possible advantage to be derived from the attempted treatment of laryngeal cancer. Mr. Butlin speaks from the standpoint of highest authority in diagnosis, aided by the best advisers that the world affords. After every possible means of diagnosis has been exhausted in such hands, he would then, and not until then, proceed to divide the larynx. It is just here that one of the most vital questions arises—namely, that of positive early diagnosis. Until the means now at our disposal shall have been improved not even thyrectomy will always satisfactorily and at once solve the problem.

Careful attention to some of the minor details relating to these operations, which are more or less new, have contributed not a little to recent success. Without question much good may be accomplished by the selection of patients and by careful attention to the indications for or against operation in a given case. Thus, as to the growth, it should be of undoubted malignancy, located within the larynx, and favorably situated for complete removal with the minimum of injury to the surrounding parts.

Concerning the patient the indications are:

That he should not be too old, that he should be possessed of good vitality, that he should suffer from no physical defect likely to complicate recovery or seriously annoy him afterward, and that his temperament, his intelligence, and his surroundings be such as to make it possible for him to exist with moderate comfort after operation. That these suggestions are not unreasonable is proved by general experience.

Apparently it has not always been the best general surgeons who have obtained the most favorable results in this department. On the other hand, some of the most brilliant work on record has been done by men known principally as laryngologists rather than as general operators; several of whom, let it be said, have operated in connection with general surgeons of well-known ability. No more favorable combination could possibly be made. Doubtless the best preparation for the work would be a thorough knowledge of operations upon the tongue, neck, and lower jaw in general.

It can not be insisted upon too urgently that carcinomatous cases requiring laryngectomy are desperate at the best, both as to immediate and as to ultimate results, and that, with our present limited knowledge of the subject, no amount of caution, however great, will avail in preventing a high percentage of failures. With the sources of danger so numerous, constant, and subtle, it is impossible



that too great foresight or experience be brought to bear against them, or that the urgency of this demand be overstated. In the after-care of the patient, it is not by any means enough that the watchers should be ordinarily qualified in the care of severe surgical cases. Nothing short of special fitness in the department of this particular class of cases will yield the best results.

Next, such accidents as the entrance of septic or foreign matters into the air-passages must be carefully guarded against. The use of the œsophageal tube when intrusted to inexperienced hands has often been the cause of disaster. This part of the management, as proved by the records of failure, requires most careful handling. Another dangerous and preventable accident is the poisoning of the patient by the antiseptic dressings, among which iodoform has been the principal offender. The substitution for it of a mixture of equal parts of powdered iodoform and boric acid, or of the compound tincture of benzoin, has been attended with success.

In reviewing the recent progress in the treatment of malignant disease of the larynx, and in studying the manner in which these advances have been made, it must be apparent that nearly all have been the result of long and close study of the subject by accomplished surgeons, whose opportunities for clinical study have been unusually great. The time has long passed which an unsuccessful attempt at laryngectomy by one not fitted for the work can bring anything but reproach to the operator and discredit to the operation.

I am strongly of the opinion that, for a time at least, both the welfare of patients operated upon and the interests of science demand that the indiscriminate performance of capital operations upon the larynx should cease. In most great centres there are individual surgeons or groups of operators who are especially well fitted, as to both personal qualifications and hospital facilities, for the successful performance of this work, as has been proved in many cases by the records which they have already made. Let such men surround themselves with the proper assistants, let them systematize their efforts, and use all diligence in the perfection of appliances and methods and in the study of the cases under them, and keep careful and accurate record of everything pertaining to the history of their work. Then resign to them temporarily the care of as many cases of laryngeal cancer as possible. When a sufficient amount of material has thus been collected, we shall learn whether the radical extirpation of laryngeal epithelioma is unjustifiable, or whether, as we have the best reasons for hoping, it is likely to establish for us a reliable means of cure.

Finally, with the best results obtainable, it should not be forgotten that in this disease surgery is and probably always will be a forlorn hope, and that until we have discovered some better method of dealing with it, the results of operation, even under the best conditions, will fall far short of a perfect means of cure.

## INTUBATION IN THE ADULT.

WITH SPECIAL REFERENCE TO  
ACUTE STENOSIS OF THE LARYNX.\*

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THE treatment of chronic stenosis of the larynx, especially of the syphilitic type by means of intubation, has been discussed by Dr. Joseph O'Dwyer,† who early adapted his method to adult cases, and reported, in 1886, a case of chronic syphilitic stenosis of the larynx treated by means of intubation. Later, before the Ninth International Medical Congress ‡ at Washington, he related additional and similar experiences and dwelt upon the technique of the operation.

Dr. George M. Lefferts,§ also with special reference to syphilitic stenosis, opened a discussion on the subject before the Tenth International Medical Congress at Berlin, and again, in 1893, he presented a comprehensive paper to the American Laryngological Association || entitled *Intubation in the Adult*, but in that paper the management of acute conditions received but cursory consideration.

At the Eleventh International Medical Congress at Rome, Dr. Schmiegelow,^ of Copenhagen, opened the discussion by a paper on Laryngeal Intubation in Adults. He introduced his remarks by the statement, "Intubation can not replace tracheotomy and be adopted as the principal method of treating acute stenosis in adult patients, but may claim many successes in the treatment of chronic stenosis."

Dr. W. K. Simpson,¶ Dr. Max Thorner, and others have reported isolated instances of a chronic nature similarly treated.

Intubation with reference to laryngeal stenosis of tuberculous origin, which customarily assumes a chronic form, has received attention from Dr. F. E. Hopkins,‡ Dr. Charles H. Knight,† and others. But beyond mere reference to an isolated case here and there, very few in all, I have failed to find recorded any extended notice of the management of acute stenosis of the larynx in the adult by means of intubation.

My own experience embraces four cases—three of

\* Read before the American Laryngological Association at its eighteenth annual congress.

† *Medical Record*, June 5, 1896.

‡ *Transactions of the Ninth International Medical Congress*, vol. iv, p. 121.

§ *Verhandlung des X. internationalen Medicinischen Congresses*, Band v, S. 159.

|| *Transactions of the American Laryngological Association*, 1893, p. 39.

^ *Journal of Laryngology, Rhinology, and Otolaryngology*, 1894, vol. viii, p. 240.

¶ *New York Medical Journal*, February 22, 1890.

‡ *New York Medical Journal*, February 27, 1892.

† *New York Medical Journal*, December 31, 1892.

laryngeal diphtheria and one of acute oedema of the larynx, which, having been detailed in a preliminary report, will here with be presented only in abstract. To these I append, through the kindness of friends, two other cases previously unpublished—one of laryngeal diphtheria and one of obscure origin, making six in all.

It does not suffice to assume that the adult may be dealt with exactly like the child, or that the management of acute stenosis, with its associated state of helplessness and exhaustion on the part of the patient, is identical with that of chronic stenosis. Novelty may yet be discerned in the presentation of the facts, as regards both the technique and the possible scope of the operation. The first glance at a patient of large stature, of unmanageable *avoids*, with a large, thick neck, recumbent on a bed, cyanotic, and perhaps moribund, respiration being reduced to laborious gasps, will serve to flood the operator's mind with important distinctions with reference to intubation.

Such, in fact, was a preliminary case in which I did not perform intubation but substituted tracheotomy. In the absence, at that time, of published precedent, I feared lest my finger as a guide might fail to reach the larynx, or that spasm of the glottis might be provoked, or that the recumbent position, unfamiliar in connection with intubation, might so prolong the time of placing the tube that life's spark would be wholly extinguished. These contingencies deterred me then, and, in the light of subsequent experience, they must still be accorded due consideration, although in a similar case I should now feel justified in making a single attempt at intubation, with all preparations completed for a hasty tracheotomy.

CASE I.—A girl, sixteen years of age, of adult stature, presented the usual symptoms of stenosis from extension of pharyngeal diphtheria to the larynx. She was too ill to move from the bed, the left side of which she occupied, but her head and shoulders were raised by pillows. At first I sat upon the edge of the bed to the patient's left, but was conscious then of an awkward twist in my own posture, and fearing this might imperil success, I knelt upon the bed immediately in front of the patient, which secured a juxtaposition, and, guided by the sense of touch, introduced the first size of the adults' set of tubes. Aided by antitoxine, convalescence rapidly ensued.

A more satisfactory arrangement would have been to move the patient to the right edge of the bed and to stand to her right, in which position one's operating arm rises in front of the patient's mouth without awkward twisting of the operator's body.

The next case presents particularly interesting and instructive features.

CASE II.—A young lady, aged twenty-seven years, on the sixth day of a combination of circumtonsillar abscess and pharyngeal diphtheria, had manifested laryngeal stenosis for twelve hours, intense at times and again less, the patient's strength being well maintained. By means of the laryngoscope, the epiglottis, larynx, and

trachea were distinctly observed to be lined with whitish exudate. A culture disclosed *Loeffler bacilli*.

The patient was wrapped with a sheet to secure the arms, seated in a strong, straight-back chair, and the tube placed without difficulty in the usual manner, guided by the sense of touch. My index finger could reach only to the tip of the epiglottis and not to the arytenoid eminences, the usual guide with children. In an hour the tube was expelled by cough. So easily had it been introduced that I deemed it unnecessary to again move the patient for reintroduction, but attempted it kneeling on the bed in front of her. To my surprise the tube would not enter. The next effort was made more deliberately with the patient seated in a chair as at first, and again failed, although I was positive the tube was properly directed. Then I sprayed the throat thoroughly with cocaine, and with the next effort made use of the laryngoscope. The patient was docile, the light good, and the larynx easily seen. Thus did I observe the end of the tube engaged in the larynx, as it were, but stopped by spasmodic contraction of the ventricular bands and interarytenoid fold. I held the tube firmly in position for a few seconds, when the patient made a slight cough, and with it the larynx opened for inspiration, and the tube slipped through the glottis into place.

Aided by antitoxine, the patient progressed favorably for two days and a half, when respiration became gradually but seriously embarrassed, the symptoms suggesting that extension to the lungs had occurred. However, a critical examination indicated that the lungs were not involved and that the tube itself was unobstructed, but that a mass of mucus and perhaps loosened exudate had accumulated in the trachea below and around the tube. I removed the tube by aid of the laryngoscope and found it perfectly open; some mucus only was thereafter expectorated, and the patient instantly again breathed freely. Dyspnoea did not recur, and recovery ensued in due time.

I feel that in both this and the preceding case the patients owe their lives to the combined effects of intubation and antitoxine, but in the latter case the life which was first jeopardized by diphtheria, then saved by intubation and antitoxine, was a second time placed in jeopardy by the mere presence of the tube, and again saved only by its prompt extraction. The symptoms and physical signs produced by the mere retention of inspissated mucus in the trachea and larger bronchi closely simulated diphtheritic broncho-pneumonia, which has been the final chapter in the history of so many fatal cases. The whole chest surface transmitted rattling bronchial-like sounds and exhibited a deficient respiratory murmur, produced solely by mucous obstruction, not in the tube, but just below it. The larger size and more vigorous action of the chest in the adult facilitated the diagnosis from genuine broncho-pneumonia. How often possibly have children been permitted to die for want of a timely extraction of the tube, the operator mistaking this condition for broncho-pneumonia and deeming it unnecessary to subject a semi-moribund child and its friends to the ordeal of extraction in the face of a seemingly fatal complication!

Another point exemplified is the possibility of invol-

untary spasm of the glottis, preventing the ready insertion of the tube. Together the muscles acted like a powerful sphincter, and the passage could not be safely forced. If this can happen in the adult, as was so distinctly seen in the laryngeal image, why not also in the child?

In fact, when one considers how readily spasm is provoked by other laryngeal manipulations, one is surprised that it is not more frequently encountered with intubation.

Dr. Hopkins \* has mentioned having met with unexpected resistance in the passage of the tube in his case of chronic tuberculous stenosis of the larynx—as he says, “a resistance due largely, no doubt, to muscular spasm.” It is satisfactory to have had the suspicion of this possible obstacle confirmed by actual inspection, as in the case just recorded.

As exemplified in Cases I and II, the adult larynx at first evinces greater intolerance to the presence of the tube, so that it is commonly expelled by cough soon after its introduction. This tendency was pronounced in

CASE III, an athletic young man with pharyngeal and laryngeal diphtheria, repeatedly expelled tube after tube as rapidly as they could be introduced. Finally the manipulations, together with the cocaine used, eased respiration to such an extent that the trials were suspended, because he seemed to be doing well without a tube, and so made a good recovery.

Perhaps a tendency on the part of the operator to select at first tubes of too small size for the adult's larynx has conduced to more frequent expulsion.

CASE IV was also one of laryngeal diphtheria in a man aged about thirty-five years, the particulars of which are kindly furnished, from his practice, by Dr. T. Melville Hardie. He says: “The stenosis was great and the membrane extensively developed. The examination was easily made with the mirror, but Dr. Waxham guided the adult intubation tube into the larynx with his finger without difficulty, the man being seated in an ordinary chair. The patient recovered.”

CASE V was one of acute subglottic stenosis of obscure origin, the particulars of which are kindly furnished from his practice by Dr. C. E. Manierre. John C., aged twenty-two years, had recently recovered from a severe attack of typhoid fever. He was referred by Dr. Storer, suffering from a rapidly increasing dyspnea, unaccompanied by aphonia. A constant hoarse cough rendered laryngoscopic examination impossible. A large-sized tube was inserted and worn one week, when it was expelled by cough, and the patient thereafter breathed perfectly well. While the tube was in place he took food remarkably well with the head in the inverted position. At the time a tracheal gumma was suspected, although there were no other syphilitic data, and there has been no recurrence. It was probably a case of acute inflammatory subglottic oedema or infiltration.

The following case, though resulting in lamentable failure, exemplifies difficulties in the technique of in-

tubation peculiar to adults, and is at least suggestive of a degree of hazard which pertains to this operation in acute cases, where exhaustion is already extreme.

CASE VI.—Mr. — was suffering with urgent dyspnoea. An examination disclosed simple oedema of the glottis with secondary oedema of the lungs. It was urged for tracheotomy, by some of the consultants, that the tube would reach lower than by intubation, to which I replied that the primary obstruction was confined to the larynx, the trachea not being subject to closure by acute oedema, and that the secondary oedema of the lungs might still subside if the larynx was cleared. All concurred in an attempt at intubation.

The conditions were unfavorable; the gasping patient, unable to move from bed or to sit upright, could not endure laryngoscopic examination. On introducing the gag it was found that the mouth could not be opened to exceed three quarters of an inch. It was explained that a chronic spasm of the masseter muscles had for years prevented wide distention of the jaws. This was a most serious obstacle, for the index finger could not pass to reach even the epiglottis as a guide. I was about to abandon the attempt and substitute tracheotomy when another intubator appeared and rather urged the effort. I made it and failed. The patient's exhaustion was measurably increased thereby. My *confrère* made a second attempt, which also failed, and the exhaustion of the patient was further intensified so that he was now *in extremis*. I then performed tracheotomy below the thyroïd isthmus in order to satisfy the possible opinion that swelling might extend low down in the wind-pipe. It was deemed necessary to give a little chloroform.

The operation, though hasty, was practically bloodless; soon the trachea was bared and punctured, but, unfortunately, just then the patient expired; nor was vigorous artificial respiration through the tracheotomy tube of any avail, for life was extinct.

Immediately, post mortem the opportunity was taken to further certify the nature of the impediment to intubation which was encountered, as well as to demonstrate the feasibility of the operation generally in cases of acute oedema of the glottis in adult life. The jaws being now forcibly separated, the epiglottis and borders of the larynx could be felt characteristically oedematous, and I inserted the intubation tube without difficulty, its lower end becoming visible through the tracheotomy slit and its head freely overriding the oedematous tissues. This was with the body still in the tracheotomy position, recumbent, and neck distended, I standing to the subject's right.

The complication of chronic spasm of the masseter muscles which prevented the success of intubation in this case would be but rarely encountered; but the jaw is frequently “set” in conjunction with circumtonsillar abscess, phlegmonous pharyngitis, and Ludwig's angina, conditions in which secondary oedema of the glottis may demand either intubation or tracheotomy. My experience would dictate that when the jaws are thus “set” and laryngeal obstruction demands interference, tracheotomy should be selected without further exhausting the patient by attempts at intubation.

High tracheotomy can be done with cocaine anaesthesia only, at least on many subjects, which would

\* New York Medical Journal, February 27, 1892.



avoid the dangers pertaining to chloroform when the respiration is already embarrassed, and it seems that this would have been the better line of action in the case herewith reported.

Attention has been called by Dr. J. H. Metzgerott, late assistant to Professor Schnitzler, and Dr. Hajek, of Vienna, to the liability of pressure decubitus by intubation, especially in oedema of the larynx. He says: "In a case of acute inflammatory oedema of the larynx this occurrence, directly traceable to the pressure of the tube upon the inflamed membranes, followed." He believes intubation to be therefore contraindicated in such cases. This liability must certainly be taken into consideration, but a single consequence of this nature does not settle the point, for it is likely that undue pressure was caused by an unnecessarily large tube. The smallest tube of the adults' set—that which is designed for adolescents—should be selected for first insertion in case of acute oedema of advanced degree. This would supply enough air, and if it was expelled, the next size could follow.

My own cases would indicate that the technique of intubation in acute stenosis with adults is more varied and at times more difficult than with children, and, since it is an operation the success of which is wholly dependent upon manual dexterity and rapidity of action, advance information as to methods will partake of the highest degree of utility.

The responsibility is inestimable. Time and life alike are fleeting, and a few seconds are to determine brilliant victory or ignominious defeat for both patient and operator. I have formulated the following conclusions as to technique, changes in which, however, may be suggested by additional experience:

1. For one accustomed to the use of the laryngoscope, intubation on adults is easier and more certain under its guidance; therefore for a patient of adequate composure and able to maintain the sitting posture this method should be selected.

2. A patient lacking only composure—one whose inclination is to resist rather than to assist the operator—may be closely wrapped in a blanket to pinion the arms and legs, seated in a straight-back chair, the head inclined slightly backward, the mouth gagged, and the finger used as a guide, as with children.

3. A patient lacking strength to move from the bed and composure or strength for laryngoscopic insertion, should be placed close to the right edge of the bed so that the operator can stand to the patient's right side; the head and shoulders should be well raised by pillows, the neck moderately extended, and the method by the sense of touch otherwise carried out. Kneeling on the bed in front of the patient is unnecessary.

4. A patient who is moribund or nearly so may have the tube inserted while in the recumbent position. The operator should be to the patient's right, who should therefore be placed on the right edge of the bed. This

brings the operator's right hand more immediately in front of the patient without awkward twisting of his arm or body.

Spraying the fauces with a five-per-cent. solution of cocaine facilitates introduction by whatever method, and tends to lessen the liability to premature expulsion.

The extraction of the tube is especially easy under laryngoscopic illumination; otherwise it is done in accordance with the same principles as regards the position of the patient as pertain to its introduction.

The author's posture method of feeding subsequent to intubation, by inclining the patient's head and shoulders downward, in which position fluids may be swallowed without gravitating through the tube into the lungs, can be successfully used with adults, but naturally with more difficulty at first than with children, on account of unmanageable weight and size. It is best done by hanging the head and shoulders over the edge of the bed downward nearly to the floor. Dr. O'Dwyer states that in chronic cases in adults the posture method of feeding is even more successful than with children. Here there is more time to learn the trick perfectly and to overcome timidity, which may at first impair the usefulness of the method in acute cases. Meanwhile, adults more readily than children may be fed upon semisolids, such as custards, stiff cornstarch, and oysters, which will slide over the top of the tube without entering it.

Regarding the scope of intubation for acute stenosis in adults, the four cases of laryngeal diphtheria herewith reported, together with one other of which I have personal knowledge, all of which terminated favorably, justify the conclusion that this operation may with advantage be substituted for tracheotomy in that disease.

Concerning acute oedema of the larynx the indications are not so clear. The operation is technically feasible in uncomplicated cases, even when exhaustion is extreme, and I should consider a single attempt justifiable, provided, in order to guard against pressure decubitus, the smallest size of the adults' set of tubes was first selected.

When complicated by having the jaw "set" or by pharyngeal swellings which might obstruct the top of the tube, either or both of which conditions may be encountered in cases of acute oedema of the larynx, secondary to circumtonsillar abscess, Ludwig's angina, phlegmonous angina, retropharyngeal abscess, etc., intubation is absolutely contraindicated and fruitless; efforts thereat can only serve to intensify the exhaustion and suffering of the patient.

There are other acute conditions or acute exacerbation of chronic states which might be remedied by intubation. In a case of arthritis deformans with an acute exacerbation involving the larynx the dyspnoea was so urgent that I expected to be compelled to intubate at any moment for several days, and I believe now that

much suffering and actual danger to life would have been obviated in that case had I done so.

Dr. W. K. Simpson mentions having resorted to intubation in a similar case of arthritis deformans of the larynx.

Traumatic oedema of the larynx, as by scald, corrosion, or fracture, might in suitable cases be treated in this way.

Laryngismus stridulus, or reflex spasm of the glottis, though rare in adults, might constitute another indication.

Also oedema of the larynx secondary to chronic syphilis or tuberculosis might come within the same category, since the oedema may figure as an acute exacerbation provoking sudden and urgent dyspnoea.

The treatment of *chronic* stenosis of the larynx and trachea by intubation is not included within the scope of this paper.

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## ALBUMIN TESTING.

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For practical clinical purposes it may be assumed that normal urine is free from albumin or any substance belonging to the class "proteid." Under various and widely different pathological conditions these bodies find their way into the urine, giving rise to urinary abnormalities of decided clinical significance, and of much interest to the physician.

Until a comparatively recent date, the proteids occurring in urine were classed together as a single body under the term "albumin." It is now known that there are several different proteids of frequent and often simultaneous occurrence in urine, each possessing a widely different significance. So long as they were classed together under one head and considered as a single substance, the problem of the detection of albumin was a simple one. The better understanding which has resulted from recent investigations and improvements in urinary chemistry has placed the matter upon an entirely different footing, and has surrounded this hitherto simple process with many difficulties. The different proteids met with in the urine are: 1. Serum albumin. 2. Serum globulin. 3. The albuminates. 4. Protosees or albumoseæ. 5. Peptones. 6. Mucin. In addition, there are certain bodies which gain access to the urine and give reactions very similar to those produced by albumins. They must therefore be taken into account in testing. These substances are the oleo-resins, or pine acids, sometimes present after taking cubeba, copaiba, or sandalwood, and the vegetable alkaloids excreted in the urine after the ingestion of such drugs as quinine and strychnine.

Serum albumin is the proteid present in the urine in

organic kidney lesions, and consequently possesses the greatest interest for the clinician. In the majority of analyses it is the body we are in search of. There are many methods devised and advised for its detection, many of them delicate, and all of them sufficiently so for practical purposes, were delicacy the only qualification required. Unfortunately, most of these tests, in addition to precipitating serum albumin, also react to other albuminous bodies present. If we bear in mind the widely different pathological import of the presence of these products, it will be seen that the employment of reagents which are not selective in their action may lead to confusion and inaccuracy. In routine clinical work we can eliminate serum globulin and the albuminates from our consideration in testing for albumin. Globulin is nearly always associated in urine with serum albumin. This association is so close that it has come to be considered as of much the same significance as the latter body. The albuminates occurring in urine are acid albuminate, or syntonin, and alkali albuminate, formed by the action of acids and alkalies upon albumin. They rarely exist preformed in the urine, but arise during the application of some of the tests. This most frequently happens with the heat and acid test, and constitutes a possible source of error with that method. With other albumin tests it is not likely to occur and may be disregarded. Other forms of albumin enumerated in the classification given, together with the reaction-producing substances mentioned, can not be dismissed in this manner, but must be taken into account when testing.

The methods most in use for the detection of albumin are: The heat and acid test, Heller's, Tanret's or the potassio-mercuric-iodide method, picric acid, Spiegler's, Millard's, trichloroacetic acid, and the ferrocyanide of potassium tests. All of these, with the exception of the last-named, react to at least two or three of the co-occurring bodies in addition to serum albumin—some of them, as, for example, the potassio-mercuric-iodide and picric-acid tests, precipitating all albuminous bodies. These fallacies indicate that if any one of the methods is to be relied upon and accurate results expected, its use must be surrounded with precautions to prevent error.

In choosing a test for serum albumin great delicacy should not be considered so essential a quality as reliability. In fact, oversensitiveness has been urged as an objection to more than one of the methods. What is required is a test which is of sufficient delicacy and which possesses a selective action for serum albumin, precipitating that body while exerting no action upon other urinary products.

In mentioning the fallibility of the methods usually employed, the ferrocyanide-of-potassium test was excepted as being free from the errors others are subject to. This is an exceedingly simple method, the reagent consisting of a ten-per-cent. solution of ferrocyanide of potassium (C. P.) in distilled water. It is quite stable and possesses the exceptional and essential quality of precipitating

serum albumin exclusively, giving no reaction with other bodies present in urine. It precipitates all modifications of serum albumin, including the albuminates. It can be relied upon for the detection of that body.

To apply the test, proceed as follows: To 10 c. c. of urine in a test tube add 5 c. c. of ferrocyanide solution and then 1 c. c. of acetic acid. Mix by reversing the tube a few times, and if albumin is present a distinct cloudiness or precipitate appears throughout the mixture. The reaction deepens upon standing, and it is well, if any uncertainty exists, to stand the tube aside for three or four minutes (not longer) and then re-examine. The ferrocyanide reagent should invariably be added to the urine first and the mixture then acidulated. This is a very important rule, for upon it depends largely the accuracy of the method. Mucin is soluble in alkaline, insoluble in acid media. If the acid be added first, that body, if present, will be thrown out of solution, forming a cloudiness which is intensified by the addition of the test reagent. If, on the contrary, the alkaline ferrocyanide of potassium be added first, mucin will be held in solution and not affected by subsequent acidulation. This rule should be carefully observed in employing the method. During four years' constant use I have discovered no objection to this test. Applied in the manner described, it is a reliable means for the detection of serum albumin. If peptone, proteose, or other albuminous body exists, this test will not develop its presence. As it is of considerable diagnostic importance to recognize these proteids, other means must be employed for their detection. For the easy accomplishment of this purpose I would recommend the use of the potassio-mercuric-iodide method, according to a scheme which shall be presently described.

Allen insists upon the advisability of filtering the urine before testing, claiming that it can thus be freed from mucin and any error on that account obviated. He directs that the chemical reaction be first ascertained by means of litmus paper, and if it be not sharply acid, advises the addition of acetic acid, drop by drop, until the proper degree of acidity is reached, as shown by prompt reddening of litmus. The urine is then filtered. I can not say that I have always found this procedure accomplish the result alleged, frequently distinct reactions for mucin persisting after acidulation and filtering. Moreover, if the ferrocyanide test is employed and properly applied, this precaution is unnecessary, since that reagent gives no reaction with mucin. If the urine is turbid from any cause, it is well to filter in order to clarify it, and render observation of the analysis more delicate and exact. In this connection it is well to bear in mind the fact that turbidity due to the presence of bacteria can not be filtered out.

Those who have investigated the relative delicacy of the different tests for albumin all unite in naming Tanret's reagent, or the potassio-mercuric-iodide method, as the most sensitive. This quality renders it pecu-

liarily well adapted for the detection of minute traces of albumin. Because of its property before referred to, of precipitating all modifications of albumin, as well as the pine acids and alkaloids, it can not be depended upon for routine use as an exclusive test. This fault, however, becomes a virtue when employed in the manner in which I recommend it. The test reagent is prepared according to the following formula:

Iodide of potassium.....	3.32 grammes;
Bichloride of mercury.....	1.35 gramme;
Acetic acid.....	20 c. c.;
Distilled water.....	64 c. c.

Dissolve the iodide of potassium and bichloride of mercury separately in water, and mix the solutions. The resulting reagent is a double iodide of potassium and mercury. To this the acetic acid is added and the whole is then filtered. The test is applied by mixture either with or without the use of a few additional drops of acetic acid. The precipitate produced by peptones, proteoses, and alkaloids is dissolved by heat. That due to serum albumin, mucin, and oleo-resins is not dissolved, but is rendered more intense by heating.

I submit the following procedure as an easily applied and accurate means for detecting and distinguishing between the different urinary proteids. To a test tube, half full of urine, add from five to ten drops of acetic acid and about one drachm of potassio-mercuric-iodide reagent. If albumin in any form or in the smallest amount be present, a precipitate will result. If there be no reaction, it is proof that the urine is free from all albuminous bodies, and further search may be abandoned. If a precipitate form, it is heated over a spirit flame. If due to peptone, proteose, or alkaloids, it will disappear or become perceptibly diminished, but will remain unaffected or be intensified if produced by serum albumin, mucin, or oleo-resins. In the event of the precipitate persisting after the application of heat, some fresh urine is submitted to the ferrocyanide-of-potassium test. If a positive reaction follows, it indicates the presence of serum albumin, since, as before pointed out, that body is the only proteid affected by this test. A negative result shows the body present to be either mucin or oleo-resins. These can be readily distinguished by adding alcohol to the original precipitate produced by the potassio-mercuric-iodide reagent, when, if due to oleo-resins, it will clear up, whereas if produced by mucin it remains unaffected. Returning to the second alternative: If heating causes a disappearance of the original precipitate the indication is that either peptones, proteoses, or alkaloids are present. The potassio-mercuric-iodide test is again applied to some fresh urine, and the precipitate is shaken up with ether. If it disappears, the reaction has been produced by the presence of alkaloids. If due to peptones or proteoses, it is not dissolved by ether. These two latter bodies may be differentiated by means of the sulphate-of-ammonium test.

The following is a summary of the reactions described:



To a test tube, half full of the suspected urine, apply the potassio-mercuric-iodide (Tanret's) test.

Negative result.....	Albumin in all its forms absent.
	Serum albumin: Precipitated by ferrocyanide of potassium test.
	Mucin: Unaffected by ferrocyanide of potassium test.
	Precipitate undissolved by alcohol.
	Oleo-resins (pine acids): Unaffected by ferrocyanide of potassium.
	Precipitate dissolved by alcohol.
	Peptone: Precipitate undissolved by ether.
	Positive reaction with sulphate of ammonium test.
	Proteose: Precipitate undissolved by ether.
	Negative reaction with sulphate of ammonium test.
	Alkaloids: Precipitate dissolved by ether.

The methods described will be found to constitute a reliable, quickly applied, and easily available means for the detection and differentiation of the proteids occurring in urine.

AUDITORIUM HOTEL, CHICAGO.

## Therapeutical Notes.

**Unna's Varnishes for the Skin.**—Dr. Unna, of Hamburg (*Lancet*, August 8th), read a paper before the Section in Surgery at the recent meeting of the British Medical Association in which he remarked that in 1891 he had brought forward some varnishes for the skin, which consisted chiefly of tragacanth. Tragacanth did not suspend heavy particles well unless it was present in a large proportion, and then the varnish did not spread well. He had found a perfect basis formed by the addition of gelatin to the tragacanth; the tragacanth probably surrounded the gelatin, as the mixtures could be used with drugs which could not be used with gelatin alone. The gelatin and tragacanth were present to the extent of two and a half per cent. each. He suggested that the new basis should be first employed in cases of acute eczema.

**Sozoiadol in Diphtheria.**—Dr. S. Schwarz (*Wiener klinische Wochenschrift*, 1895, No. 43; *Deutsche Medizinische Zeitung*, August 10, 1896) recommends the following treatment, which he considers both prophylactic and curative: In the case of children under two years old, he insufflates the nasal and pharyngeal cavities with this powder every four hours:

R Finely powdered sodium sozoiadolate. 45 grains;  
Flowers of sulphur..... 90 "  
Saccharin..... 15 "

M.

For children from two to four years old, he prescribes equal parts of sodium sozoiadolate and flowers of sulphur, with the addition of saccharin; for those over four years old, sodium sozoiadolate with a little saccharin, without the sulphur.

**The Serum Treatment of Small-pox.**—In the *Presse médicale* for August 12th Dr. A. Bédère gives a brief account of nineteen cases which came under his observation in the hospitals of Paris and of Marseilles. Among

the adults the total quantity of serum which was injected under the skin varied from a pint to a pint and a half, and twice it even exceeded this quantity. Young children received doses of from an eighth of a pint to half a pint, according to their weight. In adults it was often very difficult to inject more than a fiftieth of their weight; in some emaciated subjects M. Bédère was able to inject a thirty-third of their weight, but he never exceeded this dose. These enormous quantities of serum, which were introduced into the subcutaneous cellular tissue, were rather rapidly absorbed and did not provoke any accidents except the appearance, in certain cases, from six to ten days after the injection, of a morbilliform exanthem which was sometimes accompanied by urticarial elevations; ordinarily it was rather pale, rarely generalized, nearly always apyretic, and always of short duration; there were no general troubles.

The serum of heifers, whether they have been vaccinated or not, says M. Bédère, is generally better tolerated by the human organism than horse serum. With regard to the action of the serum of vaccinated heifers on the evolution of small-pox, M. Bédère expects to collect a large number of observations and increase, if he can, the immunizing power of this serum. For the present he simply wishes to show that its application in the treatment of small-pox patients constitutes a rational and harmless medication.

**Pyocetanin in the Treatment of Diphtheria.**—In a number of collected articles by Dr. C. Höring, of Stuttgart, originally published in Betz's *Memorabilien* (*Deutsche Medizinische Zeitung*, August 10, 1896), the author speaks enthusiastically of the local employment of blue pyocetanin in cases of pharyngeal diphtheria. It should be applied several times a day. He would use the antitoxine serum in severe cases, but not to the exclusion of this local treatment.

**Soothing Liniments.**—In the *Journal des praticiens* for August 15th a writer says that for this class of medicaments the indications are numerous, slight attacks of neuralgia, local pains during the course of general affections, and various forms of arthralgia being the principal ones. He recommends the following formulæ:

1. Wine of opium..... 30 grains;  
Chloroform..... 120 "  
Oil of chamomile..... 300 "
2. Hydromel of opium..... 30 grains;  
Chloroform..... 60 "  
Oil of hyoscyamus..... 450 "

If these prescriptions are disagreeable to the patients on account of the oil, the following liniment, which is attributed to M. Ginget, may be substituted. It is not greasy, it produces a sufficiently intense revulsion, and gives good results many times where other liniments have failed:

- |                         |                         |
|-------------------------|-------------------------|
| Floravanti's balsam,    | } each..... 225 grains; |
| Camphorated alcohol,    |                         |
| Hydromel of opium,      | } each..... 150 "       |
| Tincture of belladonna, |                         |
| Oil of turpentine,      | } each..... 75 "        |
| Chloroform,             |                         |
| Acetic ether,           |                         |

**Suppositories for Acute Localized Prostatitis.**—Gucpín (*Journal des praticiens*, August 15, 1896) generally uses the following formula:

- R Iodoform,  
Extract of hyoscyamus, } of each.. ½ grain;  
Cacao butter..... 45 grains.

M.

TH &amp;

## NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*Published by  
D. APPLETON & Co.Edited by  
FRANK F. FOSTER, M. D.

NEW YORK, SATURDAY, SEPTEMBER 5, 1896.

## COMMENDABLE TESTIMONY IN A MALPRACTICE TRIAL.

THE *Wiener klinische Rundschau* for August 16th summarizes an account of a malpractice case from a journal that it calls "N. Fr. Pr.," which may or may not mean *Neue freie Presse*. It appears that the physician against whom the action was brought had been called to attend a woman in childbirth, and had undertaken some operation which he considered necessary, but had found himself obliged to leave it unfinished and send the patient into a hospital. There an operation was performed and the woman died on the following day. At the post-mortem examination a laceration of the internal organs was found, also a foul canal, and it was concluded that the injuries had been inflicted with the forceps. In the complaint the physician was charged with having displayed lack of skill in the operation.

Two expressions of opinion, says the account, were of noteworthy weight in the case. On the strength of Professor von Hofmann's necropsy, the judge held it to have been shown that the woman's injuries must have been inflicted before she entered the hospital and that the physician's operative procedure was not in accordance with the rules of the obstetric art. Professor Schauta gave expert testimony as follows: "The first question is that of whether the operation was indicated, and to that I must answer yes. In this case I should have done the same thing myself; it accords perfectly with the rules of obstetrics. This I must maintain here in direct opposition to Professor von Hofmann's opinion. The woman's physician, to be sure, inflicted the injury with his instrument. But now comes the question, Is that pardonable or not? As to that, I must say that apparently the instrument deviated from its position in consequence of some slight movement on the part of the patient. The circumstances of private practice in such a case are peculiarly embarrassing. In hospital practice we anesthetize the patient, and she lies perfectly still. In this instance, however, there was no assistance but that of the midwife. I may remark that all of us, from the first to the least, are often so situated as to have to say with regard to mishaps: Something has happened that might have been avoided. There are

disastrous occurrences that are due to the extraordinary difficulties of obstetrics. The present case was one of misadventure, and surely it is not to be attributed to the physician's negligence or ignorance."

The *Rundschau* commends Professor Schauta's testimony from every point of view, and so do we.

## A GRACEFUL ACQUIESCENCE IN AMERICAN IDEAS.

APROPOS of "the Klebs antiphthisin case," as stated by Dr. F. E. Stewart in an article entitled *The Scientific Nature of Our Patent and Copyright Laws*, published in a recent number of the *Journal of the American Medical Association*, Professor Edwin Klebs, in a letter to the editor of that journal, explains the commercial aspect of his connection with the medicinal preparation known as antiphthisin. He says that when he first came to this country, in the autumn of 1894, to visit Dr. von Ruck's institution in Asheville, he was in every respect an entire stranger. Dr. von Ruck proposed to him to become a consulting physician to the institution and the director of a laboratory for experimental research. He accepted the offer for the reason that the institution seemed to him an admirable field for practically testing and perfecting his theoretical ideas.

Dr. von Ruck was the medical director and president of the Winyah Sanitarium and Hotel Company, with which Professor Klebs entered into a contract to serve as director of the laboratory on an annual salary and to assume a financial interest in the institution, leaving entirely to Dr. von Ruck the medical and business management, "as well as the exploitation of substances prepared in the laboratory." He therefore saw no harm in applying for legal protection for antiphthisin, especially as he assumed that Dr. von Ruck was sufficiently familiar with the sentiments of American physicians as to such matters to be able to caution him against doing anything that could be construed as a violation of ethics.

Professor Klebs did not discover until long after that time the repugnance with which most American physicians view the patenting of a remedy or a surgical device, but when he did discover the fact he divined the reason for it. In Germany nostrums are not patented at all, but scientific preparations are; exactly the reverse is the case here, and he who obtains a patent on a medicine is regarded as having put himself on a plane with nostrum mongers. Professor Klebs did not obtain a patent on antiphthisin, as he could not comply with certain requirements of the patent office. He is now more familiar with the customs of the country, and he regrets that he ever made an attempt to protect anti-

plithisin by patent. He accepts the American Medical Association's rule against proprietary medicines as of binding force, but he agrees with Dr. Stewart that some qualification should be made to distinguish scientific products from nostrums. Since bacteriological products have come into use in therapeutics legal protection of the methods of their preparation, not in the interest of individuals, but as a guarantee of their purity and efficiency and as a protection against their production by untrained hands, has become important. Professor Klebs's explanation seems to us perfectly satisfactory, and the change that he suggests in our patent laws appears desirable.

## MINOR PARAGRAPHS.

### THE OVARY AS A DRUG.

A WRITER in the *Gazette médicale de Paris* for August 15th says that the success obtained by thyroid medication induced M. M. R. Mond (*Deutsche medizinische Wochenschrift*, April 7th) to try the administration of ovarian substance in troubles due to functional inadequacy or extirpation of the ovaries. He employed tablets prepared by Merck from the cow's ovaries; they contained equal parts of salt and of ovarian substance. There are three kinds of tablets: 1. Those made from the ovarian substance. 2. Those made from the cortical substance. 3. Those made from a substance which is precipitated at the expense of the contents of the follicles. Up to the present time the experiments have been made with the first and the third only. Cases of total or partial extirpation of the annexa, cases of amenorrhœa with atrophy of the genital organs, and a case of rudimentary uterus with defective development of the ovaries were treated with "ovarine." The amount given was from four to six tablets a day, each containing eight grains. In eight out of eleven cases amelioration or disappearance of the pains was obtained. It is not possible, says the writer, to pronounce a definitive judgment on this mode of treatment, but we may hope to draw some profit from it.

### A HEALTH BOARD INSPECTOR'S CURIOUS MISTAKE.

ON a Fifth-Avenue corner within a stone's throw of Union Square there is an unoccupied house fronting on the avenue, but having an area-way on the side street. This strip of ground is covered with high grass and shows such manifest signs of neglect that the beggars that happen to pass by cast into it the bread, meat, etc., that the kind people of the neighborhood have given them. This refuse food rots and is regarded as offensive. On this account a gentleman who has apartments directly opposite recently complained to the board of health. An inspector appeared in due time at the gentleman's own residence and carefully examined the back yard. He said he could find nothing wrong, but would notify the landlord, inasmuch as a complaint had been made. When the janitor suggested to him that the premises complained of must be those on the opposite corner, he answered: "Oh, no, see that," pointing to the printed heading of the gentleman's letter of complaint.

## ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 1, 1896:

DISEASES.	Week ending Aug. 25.		Week ending Sept. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	25	6	21	6
Scarlet fever.....	18	2	26	2
Cerebro-spinal meningitis....	1	1	1	0
Measles.....	55	5	26	1
Diphtheria.....	89	15	142	25
Tuberculosis.....	190	93	192	107

**Bishop Lawrence on Vivisection.**—We copy the following from the *Journal of the American Medical Association* for August 29th:

Bishop Lawrence, at the last annual meeting of the Massachusetts Medical Society, June, 1896, gave a pointed rebuke to the antivivisectionists of his State, which was wise and timely. The remarks given below contain the Bishop's reference to that subject and also a recognition of the debt the Commonwealth owes to the altruistic ranks of medicine:

"Speaking not only for myself, but also for the great religious sentiment of this Commonwealth, I can say that wherever one finds any representative member of this society, one is impressed, he is humbled, by the devotion of the doctors to their work, by their instinctive love of their profession, by their interest in the scientific lines of their work, and by the service they devote unweariedly to their fellow men. The public spirit of the physicians throughout this State, in relation to their hospitals, to sanitary movements, and to all other civic movements which bear upon their profession, is recognized; but I can not quite believe that they are sufficiently recognized by the people. They are doing untold work in all those lines. The readiness with which the physicians of Massachusetts and of this society respond to calls, without asking questions as to whether they are to receive money in return or not—and they are sometimes imposed upon—is remarkable. The work is done cheerfully and willingly, and is the best form of charity. I can not, therefore, understand how it can be that a great body of people in this Commonwealth can so far distrust the great body of these physicians—can so far distrust their tenderness, their humanity, their sensitiveness to pain—as to bring any unwise, unreasonable restrictions to bear upon scientific study as expressed in vivisection. The people of this Commonwealth have tender hearts, and though they may be New Englanders externally, they are desirous of seeing that no hurt shall come to the animals. At the same time, it seems to me that into no hands can the welfare of lower forms of creation and the question of vivisection be more confidently placed than into the hands of the recognized medical fraternity of this Commonwealth. In reviewing in my mind the character of the good physician and his value to the community in which he lives, I can not help thinking of another medical man whom, like your president-elect, I have known as a friend and neighbor for many years, and to whose sympathy and help in time of need so many in Cambridge can testify: I mean Dr. Morrill Wyman. He comes of a family in which are united the love of pure science and the love of humanity. I need not remind you of the scientific work of his brother, Jeffries Wyman. Dr. Morrill Wyman unites the qualities of an enthusiastic, earnest, progressive student of the medical sciences, and a most skillful and devoted practitioner of his art. I remember his telling me of the remark of an old lady, a patient of his, upon whom he had just performed a very delicate operation, which illustrates the regard which is felt for such men by their patients. After the operation was over she said to him, rather to his chagrin, 'After all, physicians are but instruments in the hands of God.' But she soon set him at ease by adding, 'But there is a great deal of choice in



the instrument.' If each physician learns, as I hope he does, to regard himself as an instrument in the hands of God, to be more fully developed for his honor and the welfare of humanity, he has within him untold possibilities of usefulness."

**The American Association of Obstetricians and Gynecologists.**—The ninth annual meeting will be held at the Hotel Jefferson, Richmond, Virginia, on Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1896. Railway rates from all points to and from Richmond to this meeting will be one full fare going and one third fare returning on the certificate plan—that is, members on purchasing their tickets to Richmond must secure from the agent of whom they buy the ticket a certificate that they have paid a full fare to Richmond. Blank certificates for such use are kept by the agents. On reaching Richmond they must get the agent's certificate signed by the secretary of the association (Dr. W. W. Potter) attesting that the holder of the certificate attended the meeting. On presentation of this certificate signed by the agent from whom the ticket to Richmond was bought, and signed by the secretary as above stated, the agents at Richmond will sell a return ticket for one third of the usual fare.

**The New York State Commission in Lunacy.**—It is announced that the president, Dr. Carlos F. MacDonald, has resigned from the commission, and that Dr. Peter M. Wise has been appointed to succeed him, the change to take effect on October 1st.

**The Brooklyn Water Supply.**—It is stated that the water supplied to Brooklyn is in unusually bad condition, and that Professor Albert R. Leeds, the chemist, has been appointed to make an investigation and report upon means of remedying the trouble.

**A Proposed Masonic Hospital in Brooklyn.**—It is announced the project of establishing a Masonic hospital in Brooklyn is under consideration in twenty lodges of that city.

**Prince Bismarck a Doctor of Medicine.**—According to the *Union médicale*, the University of Jena has conferred the honorary degree of M. D. on Bismarck.

**Change of Address.**—Dr. Floyd Stewart, from New Orleans to No. 4114 Morgan Street, St. Louis.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 29, 1896:*

KINDLEBERGER, DAVID, Medical Director. Placed on the retired list September 2d.

LA MOTTE, H., Assistant Surgeon. Ordered to the naval hospital at Norfolk.

BIDDLE, C., Surgeon. Detached from the Monongahela and placed on waiting orders.

WISE, J. C., Medical Inspector, BYRNES, J. C., and BIDDLE, C., Surgeons. Ordered as a board to convene at Annapolis, September 3d, to examine candidates for admission to the Naval Academy.

#### Society Meetings for the Coming Week:

**MONDAY, September 7th:** New York Academy of Sciences (Section in Biology); Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society; Cleveland Medical Library Association.

**TUESDAY, September 8th:** Medical Society of Virginia (first day—Hot Springs); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Medical Societies of the Counties of Rensselaer and Ulster (quarterly), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospi-

tal and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

**WEDNESDAY, September 9th:** Medical Society of Virginia (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Montgomery (quarterly), N. Y.; Philadelphia County Medical Society; Worcester, Massachusetts, District Medical Society.

**THURSDAY, September 10th:** Medical Society of Virginia (third day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

**FRIDAY, September 11th:** Yorkville Medical Association, New York (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.; Cleveland Medical Society; St. Louis Academy of Medical and Surgical Sciences.

## Births, Marriages, and Deaths.

### Died.

DARBY.—In Brooklyn, on Sunday, August 30th, Dr. Charles S. Darby, aged twenty-nine years.

GOODELL.—In New York, on Sunday, August 30th, Euphemia J. Goodell, wife of Dr. Alfred Goodell.

MACKEY.—In Baltimore, on Thursday, August 27th, Dr. Argyle Mackey, of Washington, D. C.

## Letters to the Editor.

### PRIMARY ERYSIPELAS OF THE PHARYNX.

MILLBROOK, ILLINOIS, August 20, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In your issue of August 15th Dr. William Porter writes under this head of some interesting cases of erysipelas. I should like to add a case which occurred recently in my practice. While I can not say positively that the case is one of primary erysipelas of the pharynx, the course taken by the disease led me to believe such to be the fact.

Miss L. M., aged thirty, a school teacher, a few days after returning from Chicago, where she had been employed, had a severe chill followed by rise of temperature and rapid pulse. She complained only of the usual symptoms accompanying pyrexia, but an examination of the throat showed the pharynx and tonsils to be acutely inflamed, but not sufficiently so to account for the constitutional symptoms, which were quite severe. Under the usual remedies used in pharyngitis, the inflammation began to subside in a day or two, but the patient now complained of pain in the left ear. This was shortly followed by a discharge from that organ, and at the same time, or it may have been a few hours previously, there appeared a faint redness in and around the external auditory meatus. This redness gradually deepened and spread over the entire face and part of the scalp. The temperature rose to 105.5° F., where it remained for two days. I now had on my hands a very severe case of facial erysipelas. The patient recovered.

I might say that upon the first examination of the throat I found the right tonsil partly covered by a small patch of exudation from its crypts. This fact increases the doubt as to whether the case was one of follicular amygdalitis with pharyngitis, the inflammation extending along the Eustachian tube to the middle ear, and the erysipelas starting from the wound made by the perforation of the tympanum, or whether the primary inflammation was erysipelatosus. In favor of the latter diagnosis were the very severe constitutional symptoms in the beginning of the sickness and the fact that, so far as known, the patient had not been exposed to the virus of erysipelas after she left Chicago.

R. BOYD MILLER, M. D.

#### THE CORRUPTION OF LANGUAGE.

NEW YORK, September 2, 1896.

To the Editor of the New York Medical Journal:

SIR: In the *Clinical Recorder*, edited by Dr. W. S. Gottheil, vol. i, No. 3, there is an editorial entitled Some Good Suggestions, which reads as follows:

"Dr. Gould, in an address recently delivered before the American Medical Editors' Association, calls attention to what he terms the unreasoning conservatism that prevails in the spelling of medical words, and attributes it to a dislike of change and ignorance of philology. Dr. Gould is an authority on this subject, and he makes the following recommendations:

"1. Abolish the bothersome *æ*, *œ*, supplanting it by *e*.

"2. Omit *al* to adjectives having already the adjectival suffix *ic*.

"3. Drop the hyphen in words derived from the classic languages, retaining them only in words of English origin when both are nouns. Write *cul-de-sac*, *culdesac*; *anti-toxin*, *antitoxin*; but write *skin-diseases*, *heart-murmur*.

"4. Drop the useless *te* from *curet*, *brunet*, *cigaret*, as we have already done in *quartet*, *corset*, *bouquet*, and cut off the *me* in *program*, *gram*, *centigram*, as we do in *telegram*, *diagram*.

"5. Use figures instead of writing out numbers above ten.

"6. Anglicize foreign terms as far as possible.

"7. Adopt the recommendations of the American Association for the Advancement of Science, and drop the *e* in bromide, iodide, and similar words.

"8. Avoid accents and dieresis.

"We agree thoroughly with Dr. Gould on all these points, and believe with him that the omission of useless letters and terminations will be an economy of time, space, and money, three important items for the over-worked and overread medical practitioner."

After reading these remarks attributed to Dr. Gould, I am extremely sorry that anybody who is considered an authority ever made them.

Any one who has studied for himself the slang of the rabble, or has read Zola literature, is aware of what special delight the lower classes take in applying the word *cul*—for the translation of it I have to refer to a French-English dictionary, since it is impossible to print it in this journal. Some French paper, in order to avoid this word, read: "McMahon (at the battle of Sedan) was wounded in that part of the body without which even a *maréchal* of France can not sit down." Every small boy in Germany knows it, however; the French warriors dur-

ing the time of Napoleon must have used the word very frequently, since they succeeded in popularizing it in Germany. It is certainly amusing to hear that it is derived from a classical language!

*Curet* means one thing—namely, a leather used by sword makers, and *curette* means another. There was never a word *quartette* except the English corruption of the Italian *quartetto*. The French word is *corset*, not *corsette*; the latter is also an English corruption. *Bouquet* in French means a bunch of flowers, and *bouquette* means buckwheat.

A. ROSE, M. D.

#### Proceedings of Societies.

##### AMERICAN LARYNGOLOGICAL ASSOCIATION.

Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.

The President, DR. WILLIAM H. DALY, of Pittsburgh, in the Chair.

(Continued from page 306.)

**Recent Advances in the Surgical Treatment of Malignant Disease of the Larynx.**—Dr. D. BRYSON DELAVAN, of New York, read a paper on this subject. (See page 318.)

Dr. W. P. PORCHER, of Charleston, S. C., said: Some months ago I did an operation for disease of the larynx when I really was incompetent to do it. I decided to do a laryngectomy, but previously did a tracheotomy, putting in a Trendelenburg cannula. I can not imagine anything more suitable to cause the death of your patient than this cannula, as the spring within it seems to become clogged. I barely kept my patient from dying, fortunately discovering that the opening was closed and promptly extracting it. I replaced it with a rubber tube attached to a safety pin. I first tried a hard-rubber tube, but found that it was too short to reach well into the trachea, and it frequently slipped out. The soft-rubber one was made long enough to stay in position. As to doing tracheotomy and laryngectomy at the same time, I would never do it again. It is impossible in cases of chloroform narcosis to tell whether the trouble is due to blood in the larynx or to the chloroform. In my case the patient became cyanotic, and I had to discontinue until he breathed better. The patient stood the operation, as a whole, very well, and the final result was very gratifying.

Dr. CARL SEILER, of Philadelphia, said: I am sorry that Dr. Delavan does not give enough credit to American surgeons in his paper for laryngotomy and tracheotomy. In 1885, after the Detroit meeting, I met Dr. Park, of Buffalo, who did, at a hospital in Buffalo, an excision of the larynx in a man seventy-six years of age. The man was a physician who had been through the Mexican and civil wars. A preliminary tracheotomy was performed and the case was one of epithelioma of the vocal cords. Dr. Park and I operated for an hour under chloroform and did not kill the man. Dr. Park thought he had performed a tracheotomy, but he had not. There was an extra thyroid lobe and he had got between the lobe and the trachea. We simply severed the connection, and introduced a Trendelenburg cannula. I must take issue with Dr. Porcher, as there is no such



thing as a spring in the Trendelenburg cannula. It really is a most admirable instrument in preventing the ingress of septic matter into the lungs. We should be put on record in this country in this matter.

Dr. H. L. SWAIN, of New Haven, Conn., said: While the reader of the paper laid great stress upon the matter of taking out the lymphatic glands in the neck I do not think he said too much, and I should like to add my mite in emphasizing that point, as it will help the future success of the operator in laryngectomy a great deal. I had a case in New Haven a year ago, which was a good example. We had been aware of the enlargement of the glands and a preliminary tracheotomy was done with much profit. About ten days after this we did the laryngectomy, and, as the glands had become entirely normal in size, we did not cut down into the tissues around the larynx to get at them. The recurrence was from the glands, and we think that had they been removed the patient would have been alive. The preliminary tracheotomy was of good effect in this patient in that the trachea and bronchial tubes had been prepared for their new way of breathing before the operation of laryngectomy took place. The patient was much more comfortable, coughed less, and had less of the exasperating raising than patients do in whom previous tracheotomies have not been performed. It would doubtless be a great help to many patients. As regards the Trendelenburg cannula, the modified one is safe, and I do not think the majority of patients need suffer at all from it.

Dr. JONATHAN WRIGHT, of Brooklyn, said: It seems to me that the operation of laryngectomy is one for the general surgeon, one thoroughly skilled in all the technique and possessed of all the resources of his art. It is a serious capital operation, and, in my opinion, it is not fair to the patient that one whose time is taken up with the difficult and absorbing technique of endolaryngoscopic and rhinoscopic operations should venture upon it.

Dr. THOMAS HUBBARD, of Toledo, said: Oedema of the trachea is usually secondary to oedema of the larynx, as has been said, but I have seen two cases in which the larynx showed no oedematous swelling whatever. There was a dangerous degree of stenosis in both. Intubation failed in one. Tracheotomy was performed too late. The other case was one of iodism. There was oedema of the trachea and of the fauces but not of the larynx. I could see two pale oedematous lateral swellings in the trachea. Pilocarpine was administered hypodermically, and as soon as copious diaphoresis was established the tracheal oedema subsided.

Dr. M. J. ASCH said: I am glad to hear Dr. Swain give his reasons for preliminary tracheotomy. So far as the operation of laryngectomy is concerned there is no necessity for it, as it can be done at the same time. As to the Trendelenburg cannula, I think those operating will find that after putting in a tracheotomy tube the trachea can be closed with gauze, and blood prevented from entering just as well as by a complicated apparatus.

Dr. DELAVAN called attention to statements already made in his paper. The latter he had not intended to be a complete treatise on the subject of laryngectomy, but simply an exposition of the latest improved methods for the surgical treatment of malignant disease of the throat. It was a matter of fact that in this department distinct advances had of late been made.

**Intubation in the Adult, with Special Reference to Acute Stenosis of the Larynx.**—Dr. W. E. CASSELBERRY, of Chicago, read a paper on this subject. (See page 322.)

Dr. E. FLETCHER INGALS said: I recollect, at this moment, six cases of acute stenosis of the larynx that I have treated by intubation, and there have doubtless been others. First, a man, about fifty, with acute stenosis of a few hours' duration. The tube was introduced, but gave no relief, and the man died under chloroform administered to perform tracheotomy. Second, a woman, who possibly had diphtheria, though there was no membrane in the fauces. The tube was introduced, and remained about ten hours. I was then called to remove it, but could not because my extractor was too short. Tracheotomy was done and the patient saved. Third, a man, nineteen years of age, with acute oedema and dangerous dyspnoea. He was intubated and lived. Fourth, a woman, about twenty-two, with oedema. The tube was introduced but she coughed it out. Another physician was called in who attempted to reintroduce, but the patient died during the effort. Fifth, a man with acute oedema, in whom the tube was introduced and gave perfect relief. He lived about a week with the tube in, but coughed it out, and speedily died. Sixth, a woman with acute stenosis, in whom the tube was introduced, but gave great distress, so she was unable to wear it for any length of time. There was no permanent benefit and she died for lack of tracheotomy. In another woman in whom my tube was used, dyspnoea steadily increased and tracheotomy was attempted, but she died upon the table. My experience, therefore, has not been very favorable to intubation in acute stenosis of the larynx in adults. In introducing the tube in adults it is much better to do so by aid of the laryngeal mirror. In extracting the tube it may be very difficult to reach it by the finger, so that one needs the mirror.

In acute stenosis in adults we should not waste time on intubation, for to save the life we must nearly always do a tracheotomy later, and the earlier it is done after its necessity is established, the better.

Dr. W. K. SIMPSON, of New York, said: I think the doctor's points are well taken. We sometimes think we have an acute stenosis of the larynx, when in reality it is not so. The relief by intubation of acute stenosis produced by diphtheria and stenosis from other causes may vary considerably. In the latter instances we may have a dense underlying condition, with a superimposed acute swelling, which underlying condition may either make it very difficult to introduce the tube or entirely prevent its introduction. In the adult the tongue must be well withdrawn. It should be emphasized that where the mouth can not be well opened it is useless to try to intubate, and we should be ready to perform tracheotomy.

Dr. A. W. DE ROALDES, of New Orleans, said: I should like to call attention to a class of cases where intubation has done good, that is, in fracture of the larynx, as it holds the fragment in proper apposition.

Dr. CASSELBERRY said: The epiglottis can usually be reached by the finger with sufficient certainty to enable one to insert and extract a tube from the larynx by the sense of touch. With regard to primary oedema of the trachea, I have never seen such a case of sufficient gravity to cause dyspnoea, unless associated with chronic syphilitic stenosis of the trachea. What is termed subglottic oedema is yet in the larynx, or, at least, it involves the top of the trachea only, in conjunction with the pharynx. I did not intend to go over the whole subject of the treatment of oedema. As regards fracture of the larynx, this is covered by the part of the paper I did not read.

(To be continued.)



## ONTARIO MEDICAL ASSOCIATION.

*Sixteenth Annual Meeting, held in Windsor, on Wednesday and Thursday, June 3 and 4, 1896.*

The President, Dr. F. LE M. GRASSETT, of Toronto, in the Chair.

*(Concluded from page 847.)*

**Two Cases of Slow Pulse.**—Dr. P. A. DEWAR, of Essex, related the following cases: The first patient, a man sixty-three years of age, had had an attack of acute rheumatism fourteen years before and had apparently made a good recovery from it. Nine years later he had had some malarial affection from which he had also recovered. In 1894 Dr. Dewar had been called to see him, and had found him pale and haggard, with sighing respiration and impaired digestion. The heart beats had been strong and regular, twenty-two to the minute. On the following day they had fallen to twenty, then to eighteen, and finally to sixteen. All treatment had failed to give any benefit. This condition had lasted for two months, and since that time the patient had become epileptic. The second patient had consulted Dr. Dewar for attacks of loss of consciousness. The man had been fairly healthy, active, and strong. The pulse had been irregular and beat twenty-five to the minute. The bromide treatment had been instituted and the epileptoid attacks had become rare, but the pulse still showed little difference.

**The Treatment of Abortions.**—This was the subject of a paper by Dr. G. T. McKEOUGH in which he discussed the question from a prophylactic standpoint. Any constitutional or local cause, he said, which might possibly account for the accident should be carefully sought for. In many cases curetting or trachelorrhaphy would relieve the patient, and malarial affections, syphilis, and other disease should be treated. For periodical abortions without apparent cause asafetida and viburnum were of great value. With regard to the treatment of threatened abortion, Dr. McKeough called attention to the rationale of the morphine treatment, which, combined with rest, was a sheet anchor. The method of tamponing and of the subsequent emptying of the uterus were fully described. In about thirty cases this method had been successfully employed by Dr. McKeough, who gave an account of the important points in several of the cases.

**Amputation at the Hip Joint for Advanced Tuberculous Disease.**—Dr. ALEXANDER PRIMROSE, of Toronto, reported a number of cases, of which the following is an example: The patient, a child eleven years old, had suffered for a period of six years. There had been numerous sinuses about the hip which had discharged pus in large quantities. The apex end of the femur had been drawn up on the ilium so as to form a marked prominence below the iliac crest. The patient had been much emaciated. The liver and the spleen had been greatly enlarged and the urine had shown the presence of albumin and pus. Marked amyloid disease had been present. The time had come, said Dr. Primrose, when all such cases should be submitted to operation, for a cure was not impossible.

**The Treatment of Phthisis.**—In this paper Dr. W. B. GEIKIE referred to the prophylactic treatment and to the treatment of the patient in the pre-tuberculous stage. He spoke of the value of the various remedies which were generally prescribed after the disease had taken hold of the patient, and he drew attention to the

drugs which were best adapted for the treatment of the symptoms, such as diarrhoea and cough.

**The Treatment of Phthisis.**—Dr. HODGE, of London, stated that few medical experts of the present day would pronounce the disease incurable. He quoted Dr. Burney Yeo as saying that there were eight conditions which must exist if a cure was to be effected, the most potent of which were the early recognition of the disease, which was often favored by early hæmoptysis, and a sound organic state of the patient. Dr. Hodge stated his belief in the Koch bacillus, and said that the disease must be treated either by attacking the bacillus or by the promotion of nutrition. The latter was, in his opinion, by far the most successful treatment. A large number of phthisical patients suffered from indigestion, and he advocated a full but carefully selected diet in which the nitrogenous and fatty foods were increased and the carbohydrates diminished, as they were not easily digested by phthisical patients. He deplored the fact that some medical men advocated forced feeding, and he advised the studying of the idiosyncrasies of each patient and feeding accordingly. He did not believe in the use of alcohol, and if it was used at all it should be at meals only. Favorable nutrition of the system was also greatly aided by hygienic surroundings, such as good drainage, absence of dampness, and, above all, unrestricted fresh air.

With regard to change of climate, Dr. Hodge thought that it was cruel to send a patient away from home if the case was an advanced one. Exercise was beneficial, as a rule, as it usually involved life in the open air. Daily bathing was advocated, and underclothing which was suitable to the various seasons should be selected.

In regard to the medicinal treatment, Dr. Hodge used it for the three following purposes: 1. For nutrition. 2. To influence the virulence of the bacillus. 3. To relieve special symptoms. He had great faith in cod-liver oil as a nutritive agent, and for the second purpose he mentioned Koch's tuberculin, antitubercle serum, and antiseptics, such as creosote, which Dr. Hodge evidently considered as the true specific. He thought it ought to be given in as large doses as possible.

**Three Surgical Operations.**—Dr. T. K. HOLMES, of Chatham, reported the following cases: In the first case the operation of nephrorrhaphy had been done for floating kidney. The patient was a man of active habits, and for some years he had occasionally experienced severe pains in the stomach and in the right hypochondriac region. No gallstones had ever been found, and there had been no jaundice. There were severe dyspeptic symptoms and great emaciation, together with the most distressing pain in the abdomen. Examination revealed an enlarged right movable kidney which could be displaced beyond the median line. Nephrorrhaphy was performed by the usual lumbar incision. The capsule was incised for about three inches and stripped back to secure a fresh surface. Three silk stitches were passed through the muscles and fascia, through the denuded kidney, and again through the muscles and fascia on the opposite side of the incision. The subsequent history of this case had been favorable.

The second case was that of a woman who had been thrown from a carriage and bruised in the region of the left kidney by falling upon a stone. The operation had consisted in the removal of a renal tumor. Constant pain had ensued from the time of the injury, and about eight months afterward the patient had noticed a tumor opposite the navel on the left side. This was removed

by an abdominal incision through the linea semilunaris. The ureter and the renal vessels were tied separately, the organ was rapidly enucleated, and the whole mass was removed.

The third case was that of a young woman who had discovered a lump in the left inguinal region. It had grown to be very painful, especially at the menstrual period, and after some delay abdominal hysterectomy had been performed upon the plan suggested by Dr. Howard Kelly, of Baltimore. The tumor was found to be developed beneath the pelvic peritonæum. Symptoms of shock supervened, and eighty-four ounces of a normal salt solution were infused under each breast, and an enema consisting of two ounces of brandy in a pint of the solution was administered.

### Book Notices.

*A System of Medicine* by Many Writers. Edited by THOMAS CLIFFORD ALBUTT, M. A., M. D., LL. D., etc., Regius Professor of Physic in the University of Cambridge, etc. Volume I. New York and London: Macmillan & Company, 1896. Pp. xxxix-978. [Price, \$5.]

ALTHOUGH it must of necessity follow that a work which has such a list of contributors as this has will be of a superior order, yet in anticipation one rather underestimates than overestimates its worth. As he reads, however, he has ample evidence of the superiority of the book and perceives how unique in many respects it is. To judge from this, the first volume, it is not too much to say that it more than most works of similar compass deserves the title of system, for it is comprehensive, scientific, and systematic in the highest degree. We have before this spoken in admiration of the literary merit of many of the English medical works and have contrasted them with regret with our own, which, though scientifically their equals, are in the broad educational sense often far their inferiors. It is in this manifestation of breadth of thought and education that this volume excels, though its scientific character is not on that account the less conspicuous. The introduction, in particular, merits the warmest terms of admiration. It is written by the editor himself, and for greatness of thought, broad comprehensiveness, and beauty of language is a most able production. We wish indeed that many may read it, for the influence of such a dissertation can not but make for good.

Division I of this volume bears the title *Prolegomena*, and, as might be inferred, presents such introductory and general considerations as those on medical statistics, anthropology, heredity, medical geography, the broad fields of inflammation and of fever, the general pathology of nutrition and of neoplasms, the general principles of drug therapeutics, of climatology, of artificial aërotherapeutics, of hydrotherapeutics, of electricity, massage, and dietetics, of hygiene and nursing, and, finally, even of life insurance. It is this portion of the book which impresses us as of such unusual merit, it is so complete, so thorough, and so well expressed that we question whether its equal exists. So far as the reviewer's knowledge extends, it certainly is unrivaled.

Among articles of such unusual worth it is difficult indeed specially to commend and more difficult to criticize adversely, but we may cite the chapter upon clima-

tology as of exceeding merit, so forcibly does it present the subject and with such completeness in small space. Indeed, in many respects it excels more voluminous treatises devoted to this subject alone. On the other hand, the chapter on drug therapeutics is somewhat disappointing, and, though doubtless restricted by the space allowed, might well, we think, have been more ample.

Division II is entitled *Fevers*, and is subdivided into Parts I and II, the former upon insolation and the latter upon the infections. Insolation is well presented, though in no unusual manner, but we venture to disagree with the author in his equal recommendation of the cold bath and cold affusion. In our experience—though it is comparatively an inconsiderable one—the cold bath is generally depressing and hazardous, while sprinkling with iced water, the stream falling from a height of several feet, together with vigorous rubbing with ice, is remarkably stimulating as well as cooling, and in our hands has been incomparably the superior of the cold bath. The study of the individual infections is preceded by a most excellent chapter upon the general pathology of infection, and then are discussed, in order, septicæmia and pyæmia, erysipelas, infective endocarditis, puerperal septicæmia, furuncle, carbuncle, epidemic pneumonia, epidemic cerebrospinal meningitis, influenza (in a chapter of unusual excellence), diphtheria, tetanus, typhoid (enteric) fever, Asiatic cholera, plague, and relapsing fever.

In conclusion, we again desire to express our commendation of this volume. Doubtless those which are to follow it will be fully its equals, and in the completed work we expect to see a system of medicine which shall be unexcelled.

*The Student's Medical Dictionary.* Including all the Words and Phrases Generally Used in Medicine, with their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By GEORGE M. GOULD, M. D., A. M., etc. With Elaborate Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc.; of the Arteries, Ganglia, Muscles, and Nerves; of Weights and Measures. Analyses of the Waters of the Mineral Springs of the United States, etc. Tenth Edition, rewritten and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. xii-17 to 701. [Price, \$3.25.]

WE know of no medical dictionary which better fulfills the requirements of medical students than this. Its size, its typography, its contents, all combine to render it specially suitable for the purpose for which it was prepared. To be sure, we may not desire to conform to many of its orthographical requirements, especially as concerns the use of the diphthong and the employment of certain forms of termination, such as "physiologic" for physiological. Still, these are perhaps matters of preference rather than of rule, though the amputation of the terminal *e* we can not reconcile ourselves to since the letter properly affixed has long served a useful purpose in distinguishing the alkaloid from the glucoside (or perhaps we should say "glucosid") or other active principle. Matters of preference being disregarded, however, there can be nothing but admiration expressed for this volume, the usefulness of whose predecessors can not but be continued and amplified in the present edition. The tabulations, in particular, are to be commended and admired, and, so far as our observation has gone, the revision and rewriting have



resulted in completeness amply sufficient for the student of medicine. For those more advanced we can not compare it with more elaborate works, such as Dr. Gould's large dictionary.

*Clinical Diagnosis.* A Practical Handbook of Chemical and Microscopical Methods. By W. G. ARCHERSON ROBERTSON, M. D., D. Sc., F. R. C. P. E., F. R. S. E. London: The Scientific Press, Limited, 1896. Pp. 366. [Price, 6s.]

"THIS handbook," we read in the preface, "is intended to be a practical help to the student while studying clinical medicine and to the busy practitioner to whom time is of importance. Only those methods are given which the author has found easy, rapid, and reliable, neither requiring much chemical skill nor elaborate apparatus. Mere working details are stated and no theories indulged in, these not being desired by the practical investigator. Under each 'method' the diseases in which divergences from the normal may be expected are tabulated."

Such a book as this will beyond question be a great help to the diagnostician; in fact, such a work has long been needed, for, while the various matters it presents may elsewhere be obtained, they are obtainable only from a multitude of sources. Aside from the rich inclusiveness of the book, the brief and terse character of its contents is a great advantage. The physician indeed who seeks a test must know that it is reliable, but for the multitude of theories which may more or less closely pertain to it he cares little. As an aid to the clinician we must rank this work most high and can give to it our unqualified approbation.

*Practical Points in Nursing.* For Nurses in Private Practice. With an Appendix containing Rules for Feeding the Sick; Recipes for Invalid Foods and Beverages; Weights and Measures; Dose List; and a Full Glossary of Medical Terms and Nursing Treatment. By EMILY A. M. STONEY, Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Illustrated with Seventy-three Engravings in the Text and Nine Colored and Half-tone Plates. Philadelphia: W. B. Saunders, 1896. Pp. 12 to 456. [Price, \$1.75.]

THIS book is a brilliant and striking example of the class which a little knowledge makes dangerous, because it aims to teach too much and therefore teaches unwisely; but chiefly because its author would seem not to have confined herself to the sphere in which she is evidently accomplished as a teacher, but has sought to include much that is beyond her. "Practical points in nursing" may describe the scope of the work to a certain extent, but one should know that the book aims to teach not only nursing, but also anatomy, physiology, the practice of medicine, obstetrics, gynecology, and poatology—all viewed, it is true, with the eyes of the nurse, but viewed through the glasses of the practitioner, which, to be homely, the nurse has no business to have on. Nurses no doubt pick up much that is medical from their intercourse with physicians and their observation of cases, but the best nurse is she who keeps the greater part of this knowledge to herself and does not seek to ape the practitioner. Frankly, therefore, we think that were a nurse to imitate the teachings of this book and to act on them (as she probably would, for nurses are not apt to be secretive of their medical know-

ledge) she would probably effect the resignation of the physician in attendance or her own.

So far as the "points" which treat of nursing pure and simple go, the book is excellent, but beyond this it is bad without qualification, bad not only in quantity but in quality. The instances of these failings are many, and, while some are rather errors of expression than errors of fact, they are not on that account the less erroneous. Inflammation is described in about a page and a half, and the description is remarkable for a highly original presentation of the phenomena of clotting and the startling statement that the redness of inflamed tissues is "due to increased hematin in the blood of the part." Then, too, we are told that if inflammation continues "it generally terminates in an abscess," and forthwith is introduced the poultice to bring it "to a head." The vexed problem of the action of counter-irritants is solved by the writer; they act "by irritating the ends of the sensory nerves and dilating the blood-vessels of the part so that the circulation of the blood through them is increased; the blood is brought to the surface, thus relieving the inflamed part beneath." This quite disregards the possible non-existence of a vascular connection between the parts. The writer demands that in obtaining the morning specimen of urine it be drawn with a glass catheter. This, no doubt, may often be necessary in obstetric practice, but may not urinary examinations be necessary in other conditions (possibly in male patients), and is not voluntary micturition permissible?

To delay sending for the physician until (in labor) "the bag of waters breaks" is scarcely sound advice, we think, but it is not the least of the crudities the obstetric portion of the book contains. To attribute typhoid infection to "bad air," too, in these days is going too far, and to emphasize the danger one incurs by attending a case of tuberculosis when cuts or scratches exist upon one's hands is ill-advised in view of the extreme rarity of constitutional infection thereby ("germs entering the body through the broken skin"). Kissing, though delectable, it seems is not permissible in pulmonary tuberculosis. We were so inclined to believe, though we were not aware that the prohibition was altogether due to the possibility of infection "transmitted by sores that may be on the lips."

"Angina pectoris is neuralgia of the heart: the patient has severe pain around the heart and there is difficult breathing. Hot alcoholic stimulants should be given and heat applied over the heart." So much for angina pectoris. The causes of gastritis, according to the writer, are imperfect mastication of the food, drinking liquid too hot or too cold, and drinking any of the corrosive or irritant poisons. That is all. The symptoms of gastritis, however, include "all the symptoms of collapse." Incidentally, the distended bladder must not be emptied suddenly by catheter, lest the walls of the bladder fall together and cause cystitis! We do not wish to seem difficult to please, but these things are among the features of the book which we regard as unusual.

As we have said before, however, the portions of the book which are devoted to nursing in its true and proper sense are excellent and reliable. Among them none is better than the chapter on feeding the sick, for this, with its excellent recipes and its thoroughly practical character, is a thing to be commended. If our comments are severe we have some regret, for we do not wish to discourage, and indeed there is much to applaud, but we heartily disapprove of the type of book of



which this is an example. Finally, we can not but note the orthography which ornaments this work; witness "tincture of iodine," "oxid of zinc," "peroxid of hydrogen," "morphine," and "gynecologic." The book-making is excellent.

#### BOOKS, ETC., RECEIVED.

A Treatise on Appendicitis. By John B. Deaver, M. D., Surgeon to the German Hospital, Philadelphia. Containing Thirty-two Full-page Plates and other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. xv-17 to 168. [Price, \$3.50.]

Die Mikrotechnik der thierischen Morphologie. Eine kritische Darstellung der mikroskopischen Untersuchungsmethoden. Von Dr. med. Stefan Apathy, Professor der Zoologie und vergleichenden Anatomie an der Universität Kolozsvár. Erste Abtheilung. Mit 10 Abbildungen in Holzschnitt. Braunschweig: Harald Bruhn, 1896. Pp. 322.

The Mulum in Parvo Reference and Dose Book. By C. Henri Leonard, A. M., M. D., Professor of the Medical and Surgical Diseases of Women, etc. Detroit: The Illustrated Medical Journal Company, 1896. Pp. 144.

Eighteenth Annual Report of the State Board of Health of the State of Illinois. For the Year ending December 31, 1895.

Proceedings of the Eighth Annual Session of the Association of American Anatomists, held in Philadelphia, December 27 and 28, 1895.

Report of the Bureau of Health of the City of Denver. For the Year 1895.

Operations Performed in the Eye Department of the Medico-chirurgical Hospital. By Dr. L. Webster Fox, of Philadelphia. [Reprinted from the *Ophthalmic Record*.]

Polyorchidism. By Dr. D. S. Lamb, of Washington. [Reprinted from the *Proceedings of the Association of American Anatomists*.]

Ophthalmia Neonatorum. By William Cheatham, M. D., of Louisville, Ky. [Reprinted from the *Virginia Semi-monthly*.]

Casts of the Uriniferous Tubules. By Thomas B. Carpenter, M. D., of Buffalo. [Reprinted from the *Buffalo Medical Journal*.]

The Management and Treatment of Tuberculosis in the Asheville Climate. By James A. Burroughs, M. D., of Asheville, N. C. [Reprinted from the *North Carolina Medical Journal*.]

A Concluding Report of the Anatomy of the Elephant's Ear. By Huntington Richards, M. D. [Reprinted from the *Transactions of the American Otological Society*.]

An Uninterrupted Stitch by a Continuous Method. By Campbell Ford, M. D., of San Francisco. [Reprinted from the *Pacific Medical Journal*.]

Hypnotic Suggestion as a Cure for Asthma. By Thomas Bassett Keyes, M. D., of Chicago. [Reprinted from the *Medical World*.]

The Clinical Examination of Deaf-Mutes. By S. T. Walker, M. D., of Jacksonville, Ill. [Reprinted from the *Cincinnati Lancet-Clinic*.]

Temporary Abulic Agraphia probably Due to Partial Obstruction of the Superior Longitudinal Sinus. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Colorado Medical Journal*.]

Implantation of a Glass Ball in the Orbit after Enucleation of an Eye. By L. Webster Fox, M. D.

Valedictory Address to the Graduating Class of the Medico-chirurgical College of Philadelphia. By L. Webster Fox, M. D. [Reprinted from the *Medical Bulletin*.]

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume VIII. Diseases of the Digestive Organs. New York: William Wood and Company, 1896. Pp. 2 to 667.

Deformities. A Treatise on Orthopædic Surgery. Intended for Practitioners and Advanced Students. By A. H. Tubby, M. S. Lond., F. R. C. S. Eng., Surgeon to the National Orthopædic Hospital, etc. Illustrated with 15 Plates and 302 Figures, of which 200 are Original, and by Notes of 100 Cases. London and New York: Macmillan & Co., 1896. Pp. xxii-3 to 598. [Price, \$5.50.]

A Treatise on Surgery. By American Authors. For Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A. M., M. D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, Buffalo, N. Y., etc. Volume I. General Surgery. With 356 Engravings and 21 Full-page Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. 6 to 799. [Price, \$4.50.]

Diet for the Sick. Contributed by Miss E. Hibbard, Principal of Nurses' Training School, Grace Hospital, Detroit, and Mrs. Emma Drant, Matron of Michigan College of Medicine Hospital, Detroit. To which have been added Complete Diet Tables for Various Diseases and Conditions as given by the Highest Authorities. Second Edition, revised and enlarged. Detroit: The Illustrated Medical Journal Co., 1896. Pp. 5 to 103. [Price, 25 cents.]

The American Academy of Railway Surgeons. Report of the Second Annual Meeting, held at Chicago, Ill., September 25, 26, and 27, 1895.

Twentieth Year-book of the N. Y. S. Reformatory, for the Fiscal Year ending September 30, 1895. With Illustrations and Anthropometric Tables.

So-called Epispadias in Woman, with an Illustrative Case. By J. W. Ballantyne, M. D., Edinburgh. [Reprinted from Volume Fourth of the *Edinburgh Hospital Reports*.]

Tylosis Palmæ et Plantæ, with the Description of Two Cases, Mother and Daughter. By J. W. Ballantyne, M. D., and George Elder, M. B., Edinburgh. [Reprinted from *Pædiatrics*.]

Arteriosclerosis among the Insane. By E. D. Bondurant, M. D., Tuscaloosa, Ala. [Reprinted from the *International Medical Magazine*.]

Modern Methods of Treatment of Typhoid Fever Critically Reviewed, with Suggestions for a Rational Therapeutics. By Gustavus M. Blech, M. D., Detroit. [Reprinted from the *Journal of the American Medical Association*.]

Some Conclusions Drawn from Experiences in Pelvic Surgery. By A. V. L. Brokaw, M. D., St. Louis. [Reprinted from the *Medical Mirror*.]

The Paroccipital Fissure. Should it be Recognized and so Designated? By B. G. Wilder, M. D., Ithaca. [Reprinted from the *Proceedings of the Association of American Anatomists*.]

Exhibition of a Suicide's Brain. By Burt G. Wilder, M. D. [Reprinted from the *Journal of Nervous and Mental Diseases*.]

The Cerebral Fissures of Two Philosophers. Chauncey Wright and James Edward Oliver. By Burt G.

Wilder, M. D. [Reprinted from the *Journal of Comparative Neurology*.]

Periodische Depressionszustände und ihre Pathogenese auf dem Boden der Harnsauren Diathese. Von Professor C. Lange, in Kopenhagen. Autorisirte deutsche Ausgabe nach der zweiten Auflage des Originals. Von Dr. Hans Kurella. Hamburg und Leipzig: Leopold Voss, 1896. Pp. 7 to 55.

## New Inventions, etc.

### A HAWKBILL NASAL SCISSORS.

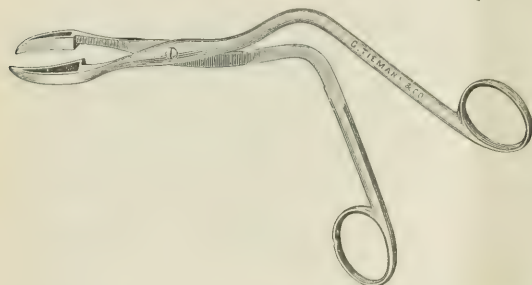
By JOHN C. LESTER, A. M., M. D.,

BROOKLYN, N. Y.,

ASSISTANT SURGEON, ST. BARTHOLOMEW'S CLINIC FOR DISEASES OF THE EYE, EAR, THROAT, AND NOSE; ASSISTANT SURGEON, NEW YORK EYE AND EAR INFIRMARY; ASSISTANT TO THE CHAIR OF OTOLGY, BELLEVUE HOSPITAL MEDICAL COLLEGE, ETC.

The hawkbill scissors, illustrated below, will be readily recognized as an adaptation of an idea long since put into practical application by Professor Alexander J. C. Skene, of this city, in another department of surgery.

In operating upon cases of hypertrophy of the middle turbinated bone, the thought occurred to the writer that a more rapid and perhaps more satisfactory method of dealing with this condition might be accomplished by an instrument that would remove a V-shaped piece of the bone, thus allowing the major part of the mucous membrane to remain intact, and providing, when the remaining cut surfaces were brought together, a space sufficient-



ly large for perfect respiration. This thought has materialized in the device herewith presented.

The idea of removing the middle third of the turbinated bone, and allowing the opposing portions to unite, thereby retaining as much of the mucous membrane as possible, originated with Dr. Fred. Whiting, of New York city, and was accomplished by means of the nasal trephine. This method of operating, in the hands of the writer, has, almost without exception, caused much pain, and at times it has been necessary to postpone operation, owing to excessive hemorrhage.

With these scissors the writer has been able to remove at once all that was necessary to relieve cases of complete obstruction.

The accompanying cut, kindly furnished by the instrument-makers, Messrs. George Tiemann & Co., accurately represents the instrument as employed by the writer.

## Miscellany.

**The Treatment of Animals Poisoned with Snake Venom by the Injection of Antitoxic Serum.**—In the *British Medical Journal* for August 15th we find an abstract of a lecture by Dr. A. Calmette, of the Pasteur Institute, Lille. The importance of the treatment of snake bite is of great importance, he says, in connection with the Indian, Burmah, Australian, and African colonies, as in India alone there are annually between twenty and thirty thousand deaths from snake bite, while the financial loss by the death of cattle, due to the same cause, is very considerable. For this reason it is obvious that any treatment of snake bite which offers reasonable promise of diminishing this mortality should be seriously considered by those who are responsible for the health administration of districts in which snakes are found.

For some time past the author has devoted considerable attention to the production of antitoxic serum, and after many experiments he succeeded some time ago in placing in the hands of physicians in India and Australia a serum the value of which has now been proved in a small number of cases in which the snake which bit the patient has been identified and captured. Many of his observations, he says, have been confirmed, some by Professor Fraser, others by observers in British colonies, but the importance of the serum method of treatment has even now not been fully realized.

These experiments are easily carried out, and are absolutely painless; in rabbits, as in the case of the human subject, the first symptom indicating the action of snake poison is slight somnolence, which, becoming more and more marked, is gradually succeeded by a condition of unconsciousness associated, first, with muscular contraction, and then with loss of motor power, which, beginning in the hind limbs, passes forward until the respiratory centres are affected, the cardiac centre being the last attacked. When the animal dies the heart is found in a condition of diastole. The venom may be injected in two ways—intravenously, when a comparatively small dose acts with great rapidity; subcutaneously, when the dose also acts powerfully, but more slowly. A lethal dose of cobra poison injected subcutaneously is about a milligramme of dried substance, which proves lethal in about twelve hours. Twice

this quantity, injected into the veins, kills a rabbit of about 1,500 grammes in sixteen minutes. Five times as much, introduced subcutaneously, proves fatal in about three hours and a half.

With regard to the protective injections, says Dr. Calmette, there is ample evidence of the great protective power that this serum exerts when it is injected before the venom is introduced, of which the following is an example: Four rabbits were injected in the lateral aural vein each with three cubic centimetres of the antitoxic serum, and some time afterward two milligrammes of dissolved dried venom were injected; this was a sufficient quantity to kill the animals in sixteen or seventeen minutes, but none of the animals showed any symptoms of sleepiness, and it was evident that the venom had little if any effect upon them. On the other hand, two cheek rabbits were each injected with two milligrammes of the venom, and they both succumbed in about seventeen minutes.



To show the curative properties of the serum, experiments were made in which some rabbits received five milligrammes of the venom under the skin. Half an hour afterward two of the animals received three cubic centimetres of the serum, and they showed no symptoms of poisoning and remained perfectly well. In an hour after the venom had been introduced two other animals received the serum and they also remained well. Two more rabbits should have been left for an hour and a half, but the dose of poison was so large that one of the animals died at the end of an hour and twenty minutes; the other animal was immediately injected with the same dose of serum with the result that it became well. This, says the author, is a very striking proof of the efficacy of the serum.

Although the serum does not act directly upon the toxine, but only through the cells, it begins to exert its influence immediately it is introduced into the body. This fact is well brought out by the following experiments: Three cubic centimetres of the serum were injected into the lateral vein of the left ear of a rabbit weighing 1,280 grammes; fifteen minutes later this animal received into the lateral vein of the right ear two milligrammes of the venom (sufficient to kill it in less than twenty minutes had it not received the serum); the animal has remained perfectly well, and still shows no evidence of poisoning by snake venom. A more striking experiment still is the following: A rabbit having received intravenously two milligrammes of venom, two minutes later was injected with five cubic centimetres of the serum in the vein of the opposite ear. The animal has remained perfectly well. Such an experiment shows that the venom does not destroy the cellular elements at once, and that even when the poison has already found its way into the circulation these cells may be rendered insensible to the action of the poison by means of the action of the serum.

Dr. Calmette thinks that the use of this serum must necessarily become generalized at no distant date in all countries where venomous snakes are found, in order that both men and domestic animals may be protected. Is it not advisable, therefore, he asks, for the British or Colonial Governments, which are deeply interested in this matter, to take rigorous measures in order to prevent the sale in England and in its colonies of serums for which no absolute guarantee of efficacy and purity is given?

He proposes the adoption of the following resolutions, and that they should be brought in some way before the Government at as early a date as possible:

1. That there shall be instituted in London and in each British colony where there are found venomous snakes a sanitary committee to be intrusted with the duty of testing the efficacy of serums offered for sale or sent out to be delivered gratuitously by druggists and others.

2. That no bottle shall be sold or distributed unless bearing the mark of such control.

3. That this control shall be effected according to the sole simple and rapid method which presents every guarantee of accuracy.

4. The method proposed is the following: A standard solution of type venom will be placed at the disposal of the appointed experts. The toxic unit of this solution will be based on the quantity of venom necessary to kill a rabbit of two kilogrammes in twenty minutes by intravenous inoculation in the marginal vein of the ear; this quantity corresponding on an average to two milligrammes of cobra venom (weighed dry) and to four

milligrammes of rattlesnake venom. An antitoxic serum, to be sufficiently active for therapeutic use, must be a preservative in a minimum dose of two cubic centimetres on intravenous injection into a rabbit of two kilogrammes against an intravenous injection of the toxic unit of venom. The preventive inoculation must be made fifteen minutes only before the inoculation of the venom. The testing of the serum is thus effected in less than half an hour.

5. That stations provided with serum and all the necessary apparatus for its application shall be established in the principal centres of agriculture and in the mining and forest districts of the colonies infested with venomous snakes, such as Australia, Burmah, and India, so that every person bitten may be able to come at once and receive treatment.

**Serum Treatment in Tuberculosis.**—At the recent meeting of the American Medical Association Dr. Paul Paquin delivered an interesting report on the treatment of tuberculosis by serum, of which the following is an abstract from the *Journal of the American Medical Association*: There are some, says Dr. Paquin, who have failed in treating consumption with serum; there are physicians who have doubts as to its value in therapeutics except that which may be due to inherent conditions dependent on the relative immunity of the horse against tuberculosis; doctors who doubt the qualifications of private laboratories and their workers, and of a general practitioner's ability, opportunities, and time to investigate, and to experiment scientifically, safely, and successfully.

The antitubercle serum, like the antitoxine for diphtheria, rests on the biological laws governing the defensive forces of an organism to oppose the encroachment of microbes and their products on the tissues and blood. Tuberculous individuals sometimes recover without a remedy. This is due to Nature's own efforts—viz., exalted phagocytosis, with all that this interesting physiological phenomenon implies. A complex being, such as man or the horse, is a republic of small animated subjects, the cells, with distinctive individual properties and obligated to co-operative functions for the sustenance of the whole. The brain and nerve cells constitute the governing power; the phagocytes constitute the soldiers of the country. Their arms consist of their individual annihilating power in a physical sense and the antitoxine elements they produce, capable (probably by a digestive or diastatic property) of neutralizing the poisons thrown amidst them by the armies of microbes constantly attacking the wonderful aggregations which they defend. What occurs in a case of consumption cured by Nature occurs in a horse properly subjected to the influence of the consumption poison. Either a natural antidote is increased in power, or a new one created, and this, says Dr. Paquin, is what exists in the serum he uses in man. Man suffering from tuberculosis is under the influence of a certain amount of tuberculin, a poison, and Nature produces in his system an antitoxine to counteract this noxious agent. But usually the army of invaders win the fight after a more or less prolonged and painful conflict. What the laboratory is expected to do is, to supply man with this defensive force, the antitoxine produced at the expense of the horse's system rather than his own.

One must not be too sanguine, he continues. Little hope can be offered to the unfortunate who suffers from advanced tuberculosis, with extensive destruction



of tissue; general tuberculous intoxication; general debility; pronounced dyspepsia, deficient assimilation and dissimulation, difficult and perverted secretions and excretions, and the hopelessness of such cases is emphasized, more or less, according to the more or less pronounced microbial complications which may exist. These complications, he says, are influenced only secondarily, by virtue of Nature having recovered some strength after the bacilli of tuberculosis are arrested in their development and devastation. He has confidence that early cases of tuberculosis can nearly all be arrested by serum administered under proper conditions, and that were it the policy of the laity to submit to constant observations and repeated analysis the moment a lung or bronchial irritation manifests itself, the diagnosis of incipient phthisis would be made early enough to diminish the death-rate due to consumption ninety per cent. by the action of serum.

Dr. Paquin calls attention to cases that have not yet been reported, or reported in the past to a limited degree, in which the patients are now in a different or more improved condition. The results obtained, he says, have been favorable and unlooked for; the patients have regained their health and strength and have resumed their regular occupation. With one exception there was a remarkable increase in weight and a wonderful improvement in the condition of the lungs.

The favorable effects of the serum treatment, however, says Dr. Paquin, must not be overestimated, for improvement in cases of very advanced disorganization and prostration has not been of long duration, as this treatment can not be expected to replace lost tissue or cure fatal lesions. It is, therefore, of radical and great importance to diagnose tuberculosis at the earliest possible moment, before a too grave mixed infection takes place.

**Nucleins and Nucleoproteids in their Relation to Internal Secretion.**—In the *Boston Medical and Surgical Journal* for August 20th there is an article on this subject by Professor Russell H. Chittenden in which he remarks that the internal secretion of glands is rapidly becoming a subject of primary importance to the physiologist, and its development bids fair eventually to furnish the physician with a fund of knowledge directly applicable to the explanation of many obscure disorders, and replete with suggestions as to methods of treatment. Until quite recently, he says, the more prominent secreting glands and structures of the body have been associated solely with their obvious function of manufacturing a specific secretion or excretion to be discharged externally through special conducting tubes. The existence of so-called ductless glands, however, such as the suprarenals, thyroid, thymus, etc., with cellular structure bearing all the marks of active tissue, has long pointed to the probable production in such glands of specific secretions designed solely for internal use—namely, the manufacture of substances which may be at once resorbed into the blood, and perhaps utilized in a variety of ways for controlling and regulating either special or general metabolism.

It is not Professor Chittenden's purpose to enter into detail concerning our knowledge of the internal secretions formed by the liver, kidneys, thyroid, pituitary body, suprarenals, etc., but he emphasizes the fact that information already accumulated shows plainly that all of these glands are active in the formation of internal secretions, all of which are endowed with marked physio-

logical properties. He thinks that this metabolic activity, characteristic of these several glands results, in some cases, in the formation of several physiologically active substances, some of greater importance than others.

The production of the specific substances which give character to the various internal secretions is obviously a function either of special cells contained in the gland, or it may be in some cases an inherent quality of all the cellular elements of a given gland.

However specialized the cells concerned in the production of these physiologically active substances may be, he continues, they are certainly typical cells with distinct nuclear protoplasm and cytoplasm, and if one is to unravel the nature of the chemical processes by which the active agents are produced and learn their true origin, as well as their exact chemical structure, it becomes necessary to study the character of the material of which the cells are composed, and out of which the physiologically active principles are constructed. It is quite proper to say that these bodies originate through the metabolic activity of the cell, but such a statement carries with it little exact knowledge and throws little light upon either the nature of the process or the character of the resultant products. Further, we must not limit our conception of internal secretion to a few isolated glands, but keep clearly in mind the fact that wherever there is metabolic activity absorption of products is likely to occur, and is, no doubt, a constant feature of all glands and tissues, although obviously not all organs yield catabolic products of vital importance.

A few years ago, says the author, our knowledge of these bodies was very limited—and indeed it is none too complete to-day—but recently it has been growing very rapidly and we are learning that under the name of nucleoproteids, nuclealbumins, nucleins, and nucleic acids we have to deal with a class of very remarkable bodies which constitute the greater part of the nucleus and cytoplasm of nearly all cells, and which evidently play an all-important part in every form of cell metabolism. Proteid or albuminous bodies have long been known as the chief constituents of protoplasm, but we now understand that it is not as simple proteids that these bodies exist in the cell, but mainly as compound bodies—that is, as combinations of nucleic acid with some form of proteid or albuminous matter.

Between the cytoplasm and caryoplasm of a cell the cytologist recognizes a distinct and usually constant difference, which shows itself at once on the application of appropriate dyes. The nucleus of the cell is rich in nuclein, while the cytoplasm, and perhaps the nucleoli as well, are characterized by the presence of nuclealbumin with a less marked affinity for dyes. But nucleins and nuclealbumins or nucleoproteids differ from each other simply in the proportion of proteid and nucleic acid which they contain. The bodies of this class are all acid bodies, of weak acidity to be sure, and with a varying degree of acidity, but sufficiently marked in every case to suggest the presence of some form of acid radicals. This fact, indeed, says Professor Chittenden, led to the discovery of nucleic acids, bodies readily obtainable from all forms of true nucleins by the action of dilute alkalis, the latter seeming to break up the combination existing between the acid and the albuminous matter with which it is naturally combined. A so-called nuclein is thus seen to be simply a combination of some form of proteid matter with a nucleic acid, while a true nucleoproteid or nuclealbumin is a combination of a nuclein with more albuminous matter.

Another fact which implies the existence of even a greater variety of nucleic acids is found in the presence of carbohydrate groups in some acids. Thus, the nucleic acids obtainable from the cells of the pancreatic and mammary glands, as well as those prepared from yeast cells, yield by cleavage a reducing carbohydrate, while from the acid of the thymus gland levulinic acid has been obtained. In some other forms of nucleic acid, on the other hand, no carbohydrate groups can be detected. Again, there are some forms of nucleic acid, so-called paranucleic acid, from which no nucleic bases whatever can be obtained by decomposition. Hence, says Professor Chittenden, it is very evident that under the head of nucleic acids there is a large class of closely related bodies, superficially showing a close resemblance in general reactions and properties, but with a diversity in inner structure clearly suggestive of corresponding differences of function.

The very nature of the many bases which come from the cleavage of the nucleic acids outside of the body; the ready convertibility of these bases into other allied bodies by oxidation and reduction; their own physiological action, which though mild is marked; the possibility, the probability, that many other catabolic products may be obtained from these nucleic acids; and further, that still other nucleic acids, at present undiscovered, may exist in the cell protoplasm; all offer good reasons for believing that the nucleins and nucleoproteids, which are the most prominent constituents of the protoplasm of all cells, are the most probable antecedents of the internal secretions.

**Modern Greek as the Language of Science.**—An Athenian newspaper, the *Kafoi*, prints the following remarks introductory to a translation of Dr. Achilles Rose's lecture given at the Academy of Medicine a few weeks ago:

Efforts are being made in America to do away with the Erasmian pronunciation. The *Ἀρχαῖς* (the Greek journal of New York) and the patriotic Professor Leotsakos started the fight in the American periodicals, but the true apostle, the ardent and zealous defender of our true and historical pronunciation and language in the New World, is the distinguished American physician and Hellenist, Dr. Achilles Rose. This learned and indefatigable Philhellene, who has promoted a better knowledge of living Greek by his writings and lectures, who by his arguments, which could not be contradicted, has upheld the true Greek pronunciation, has at the same time undertaken the herculean work of advocating Greek as the international language of science. We deem it our duty to make known to the Greek public the profound and scholarly lecture published in the *New York Medical Journal*, which lecture gives a study of the historical evolution of the Greek language and the various phases through which it has passed. This lecture, of which the following is a translation, was delivered recently in New York before a numerous and select gathering, was loudly applauded, and after having appeared in print was highly appreciated by American scholars.

**Transportation Arrangements for the Mexican Meeting of the Pan-American Medical Congress.**—The secretary of the international executive committee, Dr. Charles A. L. Reed, of Cincinnati, informs us that Dr. H. L. E. Johnson, of No. 1400 L Street, N. W., Washington, has been elected chairman of the special committee on transportation. All communications relative to rates,

reservation in the special trains, etc., should be addressed to him. A rate of one fare for the round trip has been secured between St. Louis, New Orleans, and other trans-Mississippi points, and the City of Mexico. It is confidently expected that this rate will be extended over the entire territory of the United States. Arrangements are in progress for a splendidly equipped train of sleeping and observation cars, with first-class dining-car service. Dr. Johnson will presently be able to announce a rate which will include railroad fare, sleeping and dining-car service both ways and in the City of Mexico, covering also the expense of various side trips to the most important historic points in the Republic.

**Unguentum Resinol.**—According to Dr. Robert C. Kenner, of Chicago (*Medical Progress*, August, 1896), this preparation is very serviceable in allaying the pain and itching of hæmorrhoids, also pruritus and irritation of the skin.

**The Power of Sentiment.**—The following is taken from a very interesting address delivered by Lieutenant-Colonel Alfred A. Woodhull, of the medical corps of the army, to the graduating class of the Medical Department of the University of Colorado, on June 3d, and published in the August number of the *Colorado Medical Journal*:

At the great battle of Antietam, fought in 1862 to preserve the "more perfect union" on the anniversary of the adoption of the constitution that created that union, the 17th of September, it was my lot to view a part of the field that at the time was comparatively clear. In the central foreground was a body of infantry in line of battle that had advanced firing, until halted by a foe invisible from my more elevated station. The course of the advance was marked by blue blots upon the sunburnt field. From the firing line by ones and twos slowly retiring forms passed to the rear. These motionless and straggling figures were the sparks struck by the friction of war from the advancing force, as a meteor leaves its fiery trail in the sky above. As I looked, the advance became more difficult; more maimed men dropped, out or lay stretched in their final rest. The progress was slower; the battalions failed to move forward. Under the fire of a yet unseen foe, whose execution improved as the distance diminished, the casualties increased. I could at last see the line begin to waver, a tremor ran through it, an undulation as in a vibrating rope, and I feared that it would bend before the leaden rain, bend and disintegrate. But just as the tremor was at its height an officer seized a flag, ran forward twenty or thirty yards across the field, and planted the staff as a goal. Immediately and spontaneously the line moved forward and dressed upon the colors, and at the instant the hitherto invisible foe arose from a sunken road and a dust-gray cloud floated backward as our people advanced to the position that had been so obstinately defended. The flag of the Union had waved its silent appeal to the troops of the Union; the wavering line responded to sentiment, and there was a new illustration of its efficient force.

Perhaps—I hope not—all this seems to you irrelevant. You are about to become doctors, not soldiers. Incidents of the sulphurous field point no moral for your quiet life. I beg you to take no contracted view. I am speaking to you as men and not as doctors, not as any class hampered with regular pursuits, secular or domestic. The heroic examples just cited are but one phase of life, indeed only one phase of heroism. It by



no means follows, because we can not all build palaces for the great of the earth to share our magnificence, that we must live in humble cottages, or, tentless, bivouac by the wayside. For humanity, standing a little lower than the angels, is many sided and my warning to-day is directed against concentrating your energy upon the material, to the exclusion or suppression of the incorporeal features of life.

**Medical Education in the United States.**—The United States Bureau of Education has issued a report concerning professional education in the United States, of a portion of which the following is an abstract:

The students in regular medical schools in 1883-'84 numbered 10,600; in 1893-'94 they numbered 17,601, an increase of sixty-six per cent. Students in homœopathic schools in 1883-'84 were 1,267; in 1893-'94, 1,666, an increase of 31.5 per cent. The eclectic students numbered about the same at the two periods—1,611 in 1883-'84, and 803 in 1893-'94, an increase of only 4.7 per cent. The number of regular medical students increased more than twice as fast as homœopathic students, and more than fourteen times as fast as the eclectics.

If this increase in medical students continues, the question will soon be raised, What are they all to do? Where can so many find places to practise their profession?

It is no wonder that medical men complain of hard times when competition must necessarily be so keen. It is presumed that a rather large percentage of American medical students fall by the wayside, or, if they graduate, fail to pursue their profession. It is at best hard to understand how 8,000 new doctors every year can earn a living. It is, in fact, becoming constantly harder for a young medical man to get a foothold. What he lacks in training at college he makes up by long waiting after he gets his degree.

The ratio of medical students to population in the United States is about twice what it is in European countries. The following statistics from the *Journal of the American Medical Association*, January 12, 1895, give an exhibit of different countries:

"United Kingdom (Great Britain and Ireland), 8,696 total registered medical students between 1889 and 1893; for the year 1893, based on yearly accretions, 7,000; population, 37,000,000.

"France, total number medical students inscribed on the books of the Paris Faculty of Medicine for 1894, 5,144; population, 40,000,000.

"Germany, total number medical students registered for 1894, 8,684; population, 50,000,000.

"United States and Canada, total number medical students in attendance in 1891, 20,800; population, 79,000,000.

"Proportions: In the United Kingdom, 1 medical student to 5,286 of population; in France, 1 to 7,776 of population; in Germany, 1 to 5,757 of population; in the United States and Canada, 1 to 3,365 of population."

If these figures were even only approximately correct, the medical profession is sure to be even more crowded than it is at present, and it has been found that raising the standard both for entrance and graduation has not diminished the actual number in attendance, however many it may have kept out. But the question may be asked, Is it, after all, surprising that the medical profession is crowded? What profession or trade is there which is not crowded? And is it not but natural that the professions here have larger numbers in propor-

tion to population than in European countries? The common schools and public high schools are educating large numbers of young men who have aspirations for the higher callings, and a larger number of parents in this country can gratify such desires than would be possible in densely populated Europe. It would not be a credit to American youths if, after enjoying a high-school education or even a full common-school education, they should be content to engage in work calling for no thought. While digging out coal or iron is honorable work, and the industrious and honest miner deserves every respect, it is nevertheless true that if a young man contents himself with this work, who has received good home training and has enjoyed the privilege of completing a full course in a common school and a public high school, and who is able to discharge successfully the duties of positions of trust and responsibility requiring good educational qualifications, he falls far short of filling the place for which he was prepared; he makes a poor recompense for the care, attention, and expense which were bestowed upon him; while his work is honorable, he deserves dishonor. Young men who have enjoyed good educational advantages know that they must make proper use of them, and as so many in this country receive such training it is not surprising that candidates for professional life are numerous.

But it need not be expected that all young men who can pass the final examination in medical colleges and the State examinations will have those other qualifications—perseverance, fortitude, etc.—which must be exercised so largely in attaining practical success in medicine. Some competitors must fall by the way. The law of the survival of the fittest must hold in medicine as in other pursuits. Large numbers of young men, after graduation in medicine, find openings in other lines which yield an immediate income, and others find that while the study of medicine is pleasant, to them the practise of it is very different.

In the statistical tables of 1893-'94 there are in all 152 medical schools: 109 regular, 19 homœopathic, 9 eclectic, 3 physiomedical, 2 preparatory, and 10 graduate. Omitting the preparatory and graduate schools, which are non-scholastic, there are in the regular schools 17,601 students—about eighty-seven per cent. of the whole number. In the eclectic, homœopathic, and physiomedical schools there are 2,561—about thirteen per cent.

In a few universities there is a course designed to be preparatory to regular medical work and taking the place of the first year medical course. In some other institutions a course is provided for post-graduate medical work. The course preparatory to medicine includes subjects usually taught during the first year in medical colleges having graded courses of three or four years—chemistry, anatomy, physiology, botany, and materia medica.

In the University of Kansas there is a preparatory medical course to which any student can be admitted who is prepared for entrance to the freshman class of the school of arts in all English studies. There are two terms of twenty weeks each. Students completing the work are admitted to the second year's course in any of the larger medical colleges. During the year 1894 property to the value of \$100,000 was given for the development of the medical department.

In Brown University, Rhode Island, a course of studies has been selected as suitable for students preparing for the medical profession.



Randolph Macon College, Virginia, and Nebraska State University also have courses preparatory to medicine.

Clark University, Worcester, Massachusetts, has a department where graduates in medicine and college graduates can pursue the study of the purely scientific branches of medicine, such as chemistry, biology, psychology, and anthropology. The department affords no opportunities for dissection or hospital work, and does not confer the degree of M. D.

In the University of Pennsylvania the auxiliary faculty of medicine supplements the customary course of medical instruction by lectures on branches of science essential to the thorough education of the physician. The course is essentially post-graduate. There can be no matriculation by medical students until the student has entered upon his second year of medical study.

A student in the auxiliary department of medicine who is a baccalaureate graduate in arts or science of this university or of an American college whose degrees are accepted by this university as equivalent to its own may become a candidate for the degree of doctor of philosophy on fulfilling certain requirements prescribed by the faculty of philosophy of the university. He may choose his three required subjects from the following studies: Botany, zoology, geology, mineralogy, and bacteriological hygiene.

It is noticeable that if one or two border States are omitted there are no homœopathic students in the South. In the North Atlantic States there are 595 homœopathic students; in the North Central there are 958; but in the South Atlantic and South Central combined there are only 61, and these are in the border cities, Baltimore, Washington, and Louisville.

There are always quite a number of women engaged in the study of medicine. Most of these probably enter upon a general practice, while others seek a practice specially among women and children. Judging from the enrollment of women students, homœopathy and eclecticism seem to be more popular with them than with men. While there are nearly three times as many women students in the regular schools as there are in the homœopathic, the ratio to male students is much smaller. In the regular schools the number of women is 902, which is only 5.1 per cent. of the whole number; but in the homœopathic schools there are 351, or 21.1 per cent. of the whole number; while in the eclectic schools there are 86, or 10.7 per cent. In all the medical schools there are 1,419 women, or 6.5 per cent. of the whole number.

Medical students at the present time are required to have a better preliminary training; they are required to spend a longer time in the study of their profession, and must undergo severer final examinations than students in the other professions—law, theology, dentistry, and pharmacy. If the interests involved are considered, it would seem to be only proper that the education of physicians should rank especially high. In the study of medicine the previous instruction of even a well-educated person gives him but little knowledge of those things which he must learn before beginning the practice of medicine. His previous training will simply enable him to grasp more quickly and fully the new ideas presented, and accelerate his progress along paths hitherto un-

trodden. It is therefore absolutely necessary, not that he should be capable of properly receiving instruction, but that he should also devote much time to receiving it, and be able to give clear evidence of his medical knowledge before receiving a license.

**The Construction of a Tesla-Thomson High-Frequency Coil.**—The following description, by Professor A. F. McKissick, of a coil large enough to give a five-inch spark and excite Röntgen rays is from the August number of the *American Electrician*, to the editor of which we are indebted for the cuts.

To excite the Tesla-Thomson coil, a high-potential transformer of from 10,000 to 15,000 is necessary. The construction of this transformer will be first given. Fig. 1 gives a partial cross-section of the transformer,

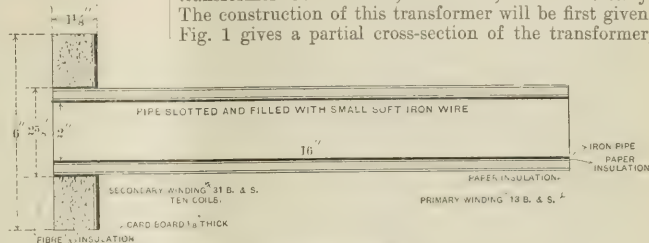


FIG. 1.—High tension transformer.

which is made as follows: A two-inch iron pipe, sixteen inches long is slotted the whole length, either in a milling machine, planer, or shaper. This slot need not be more than a sixteenth of an inch in width. The pipe is then insulated with ordinary wrapping paper to an outside diameter of two inches and an eighth, shellac being

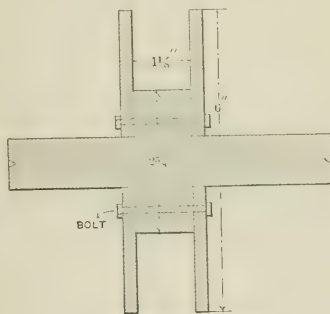


FIG. 2.—Form for winding coils.

freely used, and is then wound with No. 13 B. & S. double cotton-covered wire for its whole length (one layer). It is then covered with paper and shellacked until the outside diameter is two inches and five eighths.

The next step is to fill the pipe with soft iron wires, No. 16 B. & S., each wire being cut eighteen inches long. This completes the primary winding of the high-tension transformer.

The secondary winding of this transformer consists of ten coils wound in a form and thoroughly taped and insulated. This form is shown in Fig. 2, and can be easily made of wood. The wire is wound in this form, shellacked, removed, taped, and baked. These coils are then slipped over the primary winding, between each coil being placed a disk of cardboard an eighth of an

in thick, care being taken to connect the coils so that none will be in opposition.

The spark gap (see Fig. 3) is made as shown in diagram. The copper wires fit rather close in the holes drilled through the hard-rubber tubing, so that the length of gap can be adjusted with ease.

The condenser is made of ordinary ten-by-twelve-inch window glass. A sheet of tin foil eight by ten inches is pasted on one side of the glass with shellac, leaving a margin of one inch (see Fig. 4). A strip of tin foil two inches wide is placed across one corner, this strip being placed alternately on each side. For each side of this condenser there should be fifteen plates.

To build this condenser proceed as follows: Place on a smooth surface a condenser plate with the connecting strip projecting on the right. On top of this plate place another piece of glass, ten by twelve inches, that has no tin foil on it at all. Then place a condenser plate with the strip projecting on the left. Then a piece of glass without tin foil, and on top of this a condenser plate with the strip projecting on the right, and so on. This construction gives two thicknesses of glass between each sheet of tin foil, which is absolutely necessary.

The high-frequency coil is made as follows: Wind

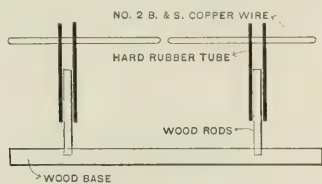


FIG. 3.—Spark gap.

an eight-inch paper cylinder eighteen inches long with No. 31 B. & S. double cotton-covered wire (or larger), leaving a margin at each end of about one inch. This is

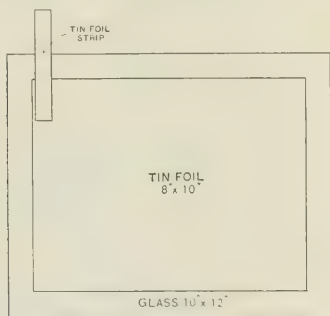


FIG. 4.—Condenser plate.

the secondary winding. The primary winding is placed on a twelve-inch paper cylinder eighteen inches long and consists of fourteen turns of four No. 8 B. & S.

double cotton-covered wires in parallel. Each of these No. 8 wires is wound on separately, then the four ends at the beginning and ending are soldered together. Between wires of different polarity, as an extra precaution,

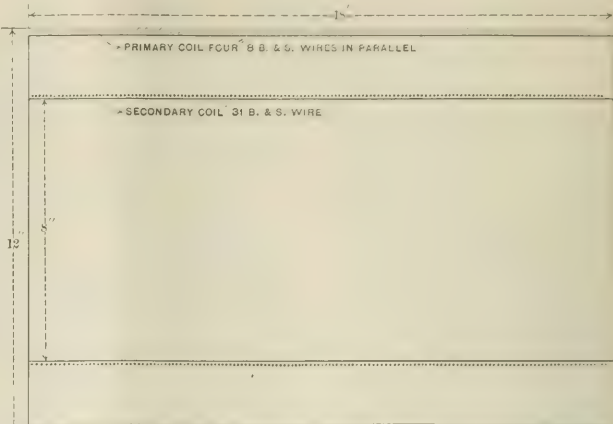


FIG. 5.—Primary and secondary coils of high-frequency transformer.

two turns of cord are wound. The primary and secondary coils are then shellacked and baked. After being baked, the secondary coil is placed concentrically (see Fig. 5) inside the primary and the connections as shown in Fig. 6 then made.

The primary of the high-tension transformer must be excited with an alternating current. With a frequency of 60 cycles a second 50 volts will suffice, and for 125 cycles per second 100 volts. The length of the spark from the secondary of the high-frequency coil will depend on the width of the "spark gap"; consequently, in exciting a tube it is best to start with the "spark gap" very short, then gradually increase until the tube is properly excited. When the terminals of the secondary high-fre-

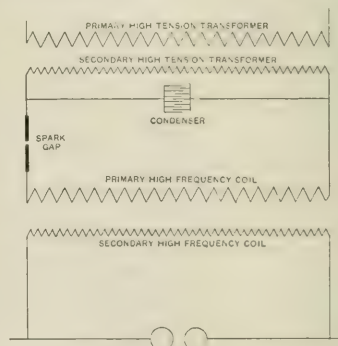


FIG. 6.—Diagram of connections.

quency coil are separated farther than five inches, a spark will pass from the secondary to the primary of the high-frequency coil. By the use of a good insulating oil a much longer spark can be obtained from the high-frequency coil, but for exciting Röntgen-ray tubes a five-inch spark will be sufficient.

Lectures and Addresses.

LECTURES ON ANGINA PECTORIS  
AND ALLIED STATES.\*

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LECTURE IV.

I. SYNCOPE ANGINOSA. II. THE ADAMS-STOKES SYNDROME.  
III. ANGINA SINE DOLORE. IV. CARDIAC ASTHMA.

I wish to call your attention in this lecture to several interesting conditions closely allied to true angina which may either develop in the course of an attack or which occur spontaneously in the subjects of heart disease or arterio-sclerosis.

I. You remember that Parry called angina *syncope anginosa*, and this feature of *faintness* may detain us for a few moments. The distinguished old Bath physician, from whose monograph I have so often quoted, says: "The angina pectoris is a mere case of syncope or fainting, differing from the common syncope only in being preceded by an unusual degree of pain in the region of the heart." This is too strong a statement, as in a majority of the paroxysms, though the pallor and other vasomotor phenomena of a *faint* may be present, consciousness, unhappily for the poor victim, is not lost. In looking over the histories of my cases I do not find *fainting*, as we usually understand the term, to have been a common symptom. There is, of course, the syncope of a fatal paroxysm—*S. letalis*, as Quain terms it. During a severe attack the patient may lose consciousness—in Case XXVI Mr. S. was once picked up on the street. In Case XXV, mentioned in connection with angina and epilepsy, we could not determine the nature of the attacks of loss of consciousness. Another feature of which I have no illustrative example is thus referred to by Broadbent:† A patient who has ceased to suffer with attacks of angina "may have attacks of what he calls faintness, in one of which he ultimately dies. These which have lost the title to the name angina have an equally serious significance." And, lastly, an individual subject all his life to fainting spells may present remarkable attacks of the nature of Gairdner's angina pectoris *sine dolore*, about which I shall speak shortly.

CASE XXXIV.—T. J. J., aged sixty-one years, seen with Dr. King, May 11, 1895, complaining of curious attacks which occur on the street while walking.

The patient has been a very vigorous, healthy man, has never had syphilis, and has been abstemious. He has had two attacks of sciatica in the past ten years, the last, a severe one, two years ago; he has had no joint affections. He has had an exceptionally healthy life. From boyhood, however, he has been liable to faint on very trifling provocation, such as a vomiting attack, a

slight shock, the sight of blood, or the extraction of a tooth. From any of these causes he would drop instantly in a faint. He has not had a spell of this kind for more than two years. His present attacks date from eighteen months ago. The first one occurred when walking from the Union Station to North Avenue. He had a tingling feeling in the hands, and then a sudden fainting sensation, as though he was going to die. *He had no pain.* The attack passed off in a few moments. He took the street car and then walked to his home, having a second attack on the way. Subsequently he had these attacks at intervals, always when walking on the street.

On November 22, 1894, he had two very severe attacks, and he then consulted Dr. King. In every instance they have come on while he is walking. He does not think that going up hill or walking against the wind makes any difference. He has never had an attack at his place of business or in his home, and he is able to go up three or four flights of stairs quickly and readily without the slightest embarrassment. They come on with abruptness, begin now every time with a feeling of numbness and tingling in fingers and hands, which sometimes extends up the arms, and which is not more on one side than the other. He has never vomited in an attack; there is no cough, and there is no dyspnea. He turns of an ashen-gray color, sweats profusely, and feels in each one as though he would sink away and die. It is this sensation of impending dissolution which has alarmed him so much. He has never had the slightest sensation of pain. During an attack he is not immobile, but he has to move slowly. The day before yesterday, for example, he had an attack before he reached his house, and was able to get up the steps into the porch and close the door; but he had then to sit down, and he was found there by his son in a condition of exhaustion and sweating profusely.

He was a healthy-looking man, with iron-gray hair and mustache; no arcus; the pupils were normal. He was not stout, but well nourished. The pulse was 72 and regular, the vessel wall not specially sclerotic, and the pulse could be compressed readily.

There was a slight throbbing in the vessels of the neck. The venules were marked along the course of the diaphragm. On auscultation there was a short, sharp, somewhat rough murmur heard only in the apex region and as far as the mid axilla. The apex beat was not visible, but was palpable in the normal situation, in the fifth space just below the nipple. The heart impulse was felt also below the ensiform cartilage; there was no thrill. The dullness began on the fourth costal cartilage and did not extend beyond the nipple line. The percussion on the manubrium was clear. The aortic second sound was not accentuated. Both sounds were clear in the vessels of the neck; the second was a little loud at the sternal notch.

The lungs were clear. Posture made no difference in the heart sounds or in the apex murmur.

The liver was not enlarged; spleen not enlarged.

After dressing, and in the erect posture, the pulse was 88 a minute.

June 14, 1895.—I heard of this patient to-day. He has had no attacks for a month.

May 29, 1896.—The patient was seen to-day. He had a severe attack in April of this year, one of the worst he has ever had. After a hearty dinner he was attacked in the street. There was no shortness of breath, but an "all-gone" feeling, as though he were going to expire,

\* Delivered to the Post-graduate class, Johns Hopkins Hospital.

† *British Medical Journal*, 1891, i, 747.



but there was no pain with it; sweat "rolled off" him. He was well that evening. He has had in the year about eight mild attacks. He had an attack yesterday. They occur nearly always after meals.

II. *The Adams-Stokes Syndrome*.—There is a most interesting group of symptoms associated with myocardial changes, and sometimes with angina, to which Robert Adams, of Dublin, first called attention, and which Stokes subsequently described more fully. Most of the text-books refer to a pseudo-apoplexy in connection with fatty or fibrous myocarditis, a condition in which with a permanently slow pulse the patient has transient vertigo, or falls into a deep coma, with or without convulsive movements. Huchard has given it the name *maladie d'Adams* or *Stokes-Adams*. As it is always pleasant and profitable to have the author's first-hand description of any symptom or disease, I will give you an abstract of the case recorded in the *Dublin Hospital Reports*, vol. iv. Adams, I may remind you, was one of that distinguished band of men, including Cheyne, Colles, R. W. Smith, Graves, Stokes, and Corrigan, who gave such renown to the Dublin school in the first half of this century. He is best known through his superb work on rheumatoid arthritis. Adams's patient was a man, aged sixty-eight years, who had had in seven years not less than twenty apoplectic attacks, each of which was preceded for a few days by hebetude and loss of memory. The pulse was permanently slow, and at the time of the attacks became slower. There was never any paralysis. Death followed an attack. Post mortem, the heart was found to be excessively fatty. There was no note about the coronary arteries. R. W. Smith\* also noted the condition of very slow pulse with fatty heart, and Stokes described it more fully,† and suggested the name false or pseudo-apoplexy. He laid stress on the syncopal character of the attacks, their frequency, the absence of paralysis, and the good effect of a stimulant rather than a depleting plan of treatment. The first case which he gives is very remarkable, and is worthy of a brief abstract, as recent Anglo-American authors have not dwelt specially upon this symptom-group: A man, aged sixty eight years, was suddenly seized with a fainting fit, which recurred several times in the day. For the three years before he was admitted to the Meath Hospital he had never been free from the attacks for any length of time, and had had at least fifty such seizures. A sudden exertion or a distended stomach was most apt to cause an attack. He had no convulsions, nor was there ever anything like paralysis. He was perfectly insensible for four or five minutes. The pulse was 28 per minute, and the arteries were "in a state of permanent distention, the temporal arteries ramifying under the scalp, just as they are seen in a well-injected subject." There was a soft *bruit* with the first sound. The threatenings of attacks

he could recognize, and he had often warded off a seizure by turning on his hands and knees and keeping the head low.

In passing I may remark that you will find in this paper Stokes's original description of the Cheyne-Stokes breathing, which, though fuller, is not a whit better than Cheyne's account published thirty years before.

Permanent slowness of the heart action and vertigo or syncope are the two distinguishing features of this syndrome. Do not forget that slowness of heart's action is the special feature, not simply a diminished number of pulse beats at the wrist. In myocarditis, in mitral-valve disease, and as an effect of digitalis the radial pulse may appear very slow—35 to 40 per minute—while the heart beats are exactly double. In the bigeminal type of heart beat the second pulse wave very often does not reach the wrist, and may lead a novice into the serious error of supposing that there is an extreme bradycardia. In "Adams's disease" the pulse rate may fall to 30 or 20 per minute, or, in extreme cases, even to 10 or 5.

The patients are usually advanced in years, and show often an extreme grade of arterio-sclerosis, the arteries feeling, as Stokes remarked, both full and hard.

The cerebral symptoms are those to which naturally chief attention has been paid. Vertigo is the most common, and is usually transient and oft repeated. Actual syncope of three or four minutes' duration, resembling closely the *syncope anginosa*, and doubtless of the same nature, has been the special feature in some cases; while in others the attack has been apoplectoid in its character, of longer duration, and has been complicated by convulsions. Huchard regards the slow pulse as a result of changes in the vagi centres, due to disease of the arteries of the medulla. He calls this form of arteriosclerosis the *cardio-bulbar*. Transient disturbances in the cerebral circulation, so common in the subjects of advanced arteriosclerosis, are responsible for the syncope and the apoplectoid attacks, which remind one of the temporary hemiplegias or monoplegias, the aphasias, and the transient paraplegias, to which these patients are subject.

Typical cases are not common. The most remarkable instance recorded in this country is by Prentiss,\* of Washington. A man, aged fifty-three years, with advanced arterio-sclerosis, had for two years a pulse range of from 11 to 40 per minute. During this time he was subject to innumerable fainting spells, and had sensations of tightness across his chest. Before his death—which took place suddenly—he was delirious for several days. The heart was enlarged, but neither the aorta nor the coronary arteries were atheromatous. The sections of the medulla showed congestion of the vessels, but no apparent lesions. Dr. Prentiss presented this remarkable case at our meetings, and I remember very distinctly the advanced sclerosis of the arteries.

The following case belongs to this Adams-Stokes

\* *Dublin Journal*, ix.

† Observations on some Cases of Permanently Slow Pulse. *Dublin Quarterly Journal*, 1846, p. 73.

\* *Transactions of The Association of American Physicians*, vols. iv, v, and vi.

type, but the patient has, in addition to the vertigo and slow pulse, a sense of severe oppression in the chest, suggestive at least of an oncoming angina:

J. W., aged forty-six years, seen with Dr. Houston, of Troy, N. Y., February 13, 1895. The family history is good. With the exception of typhoid fever twenty years ago, he has always been well and strong. He has never had rheumatism, chorea, or syphilis; he has never worked very hard with his muscles. He is temperate.

His present symptoms began about two years ago with uneasy sensations in the chest on walking fast. At first not at all severe, within the past six months they have become very distressing. He has not been able to lie flat on his back, but can lie comfortably on either side with the head a little raised. He has no sharp pain in the chest, but uneasy sensations and a feeling of suffocation. He never has any cramplike or agonizing feeling; he has had at intervals severe vertigo, but has never lost consciousness. The unpleasant sensations in the chest are particularly apt to be present in the morning. He has had no dyspepsia, but of late has become very nervous about himself. He has to walk slowly, and on going up the slightest incline he feels the sense of oppression in the chest. He has no cough, no palpitation. About a year ago it was noticed that his pulse was very slow, and in the early morning it has on several occasions been counted as low as 20 per minute.

The patient was a healthy-looking man, with iron-gray hair; there was no arcus; the pulse was 34 to the minute; the tension was plus, the upstroke a little labored, and the pulse wave was well sustained. The chest was large; the cardiac impulse was not visible; there were no areas of abnormal pulsation; the aorta was not palpable in the sternal notch; there was no increase in the area of dullness; no apparent hypertrophy; no shock at the base; no thrill.

On auscultation, the sounds in the apex region were clear; over the body of the heart there was a roughish, systolic bruit, heard also at the aortic cartilage, transmitted feebly to the vessels of the neck. The second aortic was heard, but was not specially accentuated; there was no accentuation of the pulmonary second. There was no enlargement of the liver or spleen.

I heard from this patient in April, 1896. He has been a great deal better. He still has the brachycardia, but the vertigo is not so troublesome.

III. *Angina Pectoris sine Dolore*.—The three elements in an attack—the pain, the sense of anguish, and the abrupt ending of life—may be dissociated. There may be only the severe pain, there may be a sense of *angor* and oppression without any pain—*angina sine dolore*—or death may occur without a moment's warning.

The recognition of a group of cases in which the element of *pain* is subsidiary was made by Professor Gairdner. His brief description is as follows:

"Apart from what has been variously termed cardiac asthma, dyspnoea, or orthopnoea, which in many cases receives its clear explanation from the associated states either of the pulmonary circulation or of the lungs, bronchi, and pleuræ, as disclosed by physical signs, there is often an element of subjective abnormal sensation present in cardiac diseases which, when it is not localized through the coincidence of pain, is a specially indefinable

and indescribable sensation, almost always felt to be such by the patient himself. I make this remark deliberately, as the result of experience, and well knowing that it is liable to be brought into question in particular instances; that, in fact, a large part of what has been described under the titles given at the commencement of this paragraph has been inextricably confounded by systematic writers with the sensation, or group of sensations, to which I refer. To this group of sensations, when not distinctly accompanied by local pain, I have, in various instances, given the name of *angina sine dolore*, recognizing thereby what I believe to be its true diagnostic and pathological significance, and its alliance with the painful angina of Heberden; the pain in which, however, as we have already seen, is an exceedingly variable element, both in degree and in kind."\*

Let me read you the histories of several cases of this variety:

CASE XIII.—Mr. H., merchant, aged fifty years, who had suffered repeatedly from attacks of gout, consulted me on October 21, 1892, complaining of oppression and pain in the chest, and bronchitis. Throughout the summer he had had at times very severe pain in the region of the heart and down the left arm. When first seen he was anæmic, with a dilated heart and an enlarged liver. With rest and iron he did very well. I saw him at intervals through the winter; the attacks of pain ceased, but he had severe cardiac asthma at night, which troubled him very much. I subsequently saw him in several attacks which followed the exertion of walking from the street car to my house, in which the feature of dyspnoea was subsidiary, and that of great oppression in the chest the most important. In these attacks the color changed, he became pale, looked very distressed and haggard, remained motionless, the forehead covered with sweat, the hands cold, the pulse feeble and irregular. After the attack he expressed himself as having had a feeling of indefinite distress without actual pain. There was no dyspnoea. The attacks at night were sometimes very severe, and he dreaded to go to sleep lest he should be roused in one. Though in the summer of 1892 he had had repeated attacks of what seemed to be true angina, yet he subsequently had only attacks of the kind just described.

In the spring of 1893 he became much worse; there were signs of dilatation of the heart, with the gallop rhythm, and a soft apex systolic murmur. He had cardiac dyspnoea, as well as attacks of severe oppression, and in one of these he turned on his side and died suddenly.

An attack of an *angina sine dolore* may be the very first indication of cardiac trouble.

An intimate friend, a man of about fifty-six years of age (Case V), of excellent habits and great energy, while on a visit to England, walking one Sunday afternoon with the late Dr. Hack Tuke up a slight acclivity, felt, as he expressed it, a sense of intolerable distress about the heart, turned pale, vomited, and for a few minutes could not move from the place at which he was attacked. He recognized the serious character of the paroxysm, and said that had there been the severe pain he would have

\* Reynolds's *System of Medicine*, art., *Angina Pectoris*.



called it angina. The attack was the starting point of a series of very distressing seizures, culminating in a protracted condition of cardiac dilatation, which kept him in his bed in Paris for several months. On his return he was wonderfully better, took up his work, but soon had another breakdown, beginning with attacks of *angina sine dolore*. In one of these which I saw the pallor was extreme, the extremities were cold, a clammy perspiration bathed the forehead and face, the pulse was extremely feeble, and I thought any moment that he would die. After a protracted attack of cardiac dilatation, persistently feeble, irregular pulse, without any dropsy, but with the most remarkable psychical manifestations, he recovered, and was able for more than three years to attend to his duties. Then he had a sudden, more rapid breakdown, with cardiac dilatation, and he died between three and four years from the date of his first attack. I have already shown you sections from the coronary arteries in his case, which were sclerotic, and the myocardium was fibroid in places.

CASE XXX.—E. H., aged fifty-four years, seen July 11, 1895, complaining of attacks of oppression in the chest, to which he had been subject for five years.

The patient was a remarkably healthy looking man, of good color, of medium size, with iron-gray hair. Thirty years ago he had syphilis, but was thoroughly treated at Kreuznach, and he has had no troublesome symptoms. He married eight or ten years ago, and has healthy children. He has been a very heavy smoker from his eighteenth year; otherwise temperate; he has never done heavy work.

Five years ago he noticed that when making any extra exertion he had a sensation in the chest which compelled him to stop. After resting for a moment or two he could then go on. There was no pain with it. He was smoking excessively at the time, and after stopping the tobacco the attacks became less frequent; but for two years they troubled him a good deal.

Three years ago he retired from business and spent a year in Europe. While there he had his first severe attack. While going home after a hearty dinner with a friend, he was seized with a sensation in the chest, had to stop in the street, and was taken to his hotel. The feeling in the chest was as if everything in it was being drawn together and tightened, but without any sharp pain. He was very pale, he perspired, and the attack lasted until the night. After the attack he had great depression of spirits.

The only other severe attack he has ever had was six weeks ago. He had been feeling very well, but before sitting down to dinner an annoying circumstance developed, and while still under the influence of the irritation he sat down and ate heartily. Immediately after dinner he had an attack of terrible oppression in the chest, feeling, as he expressed it, as though the life was being squeezed out of him. The slightest movement would increase the oppression. In the attack absolute quiet is what he desires. He does not even wish to be spoken to, but feels that the mind must be at rest. The immobility is evidently a very characteristic feature. When the sense of constriction and drawing is upon him, he says he could not force himself to budge an inch. In these severe attacks the pulse becomes very slow. The sensation is in the breastbone in the middle.

In describing his sensations during a conversation at least three quarters of an hour he did not use the word pain once, and states expressly that it isn't anything like pain, but an indescribable sensation of con-

striction and oppression. As he says, "he feels as if the end of everything had come"; at the same time "he feels so healthy that behind it, as it were, there is a feeling that he still has a long time to live."

In the two severe attacks a feeling extended into the muscles of the arms, not into the skin, he says, but there was a sense of strain and soreness in them.

The small attacks, as he calls them, recur with great frequency, and almost any day he has what he calls a *hindrance*; and if he makes any exertion of more than usual effort he has to stop short and wait a few moments until the sensation passes away. This may recur two or three times, and then, if he takes it slowly, he can subsequently walk two or three miles without any distress.

Two other circumstances which will bring on an attack are an unusually full meal and any mental worry. He never has the attacks at night.

The pulse was 72 when he was at rest; after his running upstairs and down, 104: the tension was not increased; the superficial vessels were not sclerosed.

The apex beat was only just visible in fifth within the nipple line. The shock of the first sound was felt, not of the second. Area of superficial dullness was reduced by emphysema. Both sounds of the heart were clear; first a little flapping and valvular; no accentuation of aortic second sound. The examination of the heart was entirely negative. The liver was not enlarged.

July 12th.—The patient stayed in town until I could see his condition in an attack. He had had two to-day, one quite light in the morning. He walked into the room somewhat deliberately, talked clearly and well, and had not changed in color. He said he had a sense of great distress just beneath the breastbone. The pulse was small and hard, 103 a minute, with distinctly increased tension. After sitting down for a few moments his skin became moist, but he did not become pale. In the course of a few minutes the attack passed off with a feeling of glow. Afterward there was a very decided change noticeable in his pulse, which was softer and fuller, and of decidedly lower tension.

He was advised to stop smoking, and ordered a course of nitroglycerin. I heard from him in September and of him in May (1896). He still has the "smaller attacks," as he calls them.

The attacks may alternate with those in which agonizing pain is present, or they may entirely supplant the severer type. Some of the milder paroxysms, indicating the beginning, as it were, of the trouble, appear to be of this kind.

An iron-gray, healthy-looking man, aged sixty-four years, of good habits and excellent history, consulted me, May 25, 1895, about curious sensations in the chest. In October he noticed that when walking fast there was a peculiar sensation about the heart, as he said, "an aureole, which spread up his neck and head and went out to the hands." If he stopped for a moment, the sensation would "recede like a glow"; if he went on, it would culminate in a pain which would compel him to stop. There was no sense of faintness, no dyspnoea, and he did not sweat. They have always followed exertion, and he has had as many as four or five attacks in a day. His arteries were a little stiff, but the aortic second sound was not accentuated. The top of the pinna of the left ear was calcified. He had never had gout. I heard from this patient on February 6th of this year. The attacks



continue, though less frequent—only two or three a week. They are characterized by the same spreading glow, beginning at the heart, and lately the curious sensation has passed down the right arm alone.

IV. *Cardiac Asthma*.—Heberden insisted that in the paroxysm of true angina there was *no shortness of breath*, and yet we find a few years after his description the term *asthma* applied to the condition: *Asthma dolorificum* (Darwin), *A. arthriticum* (Schmidt), *A. convulsivum* (Elsner).

In reading the reports of the cases published within the first half century after Heberden's paper, it is very evident that much confusion existed, and nearly all forms of cardiac distress were termed angina. Desportes emphasized this on the title-page of his monograph (1811) on angina, which he said was a malady "presque toujours confondue avec asthma." The earliest and the latest, as it is the most urgent, symptom in heart disease is *dyspnœa*, which the older writers characterized as *asthma*; and as it forms a common feature in cases of angina pectoris it is not surprising that more or less confusion prevailed. Even Stokes does not seem to have had a very clear conception of the distinctions between these states, since he says that the disease which "most often gets the name of angina pectoris might be more properly designated as cardiac asthma."

What, then, is this condition? Go into the wards and ask the patients with valvular disease of the heart as to the very *first* symptom of their trouble. With scarcely an exception they will answer, "Shortness of breath." Take a long series of histories of cases of arterio-sclerosis; you meet with the same complaint at the very outset. To the burly, obese draymen, to the heavy workers and the hard drinkers, and particularly if in addition they have been victims of the pox, Nemesis pays her first visit in an attack of shortness of breath—the *first indication of broken compensation* in an enlarged heart.

Clinically, we meet with various grades of intensity in this cardiac asthma. An exertion, the ascent of a pair of stairs, which may call forth only a fraction of the reserve force of a normal heart, may be too much for a right ventricle (in a case of mitral stenosis), or for a left ventricle (in a case of aortic insufficiency), and at the head of the stairs the patient pants, and is perhaps a little cyanosed. In chronic valvular disease such symptoms may recur on extra exertion for years without much significance; when the cardiac dyspnœa develops spontaneously, *without extra exertion*, the breakdown is not far off; and in the slow, too often watery progress to the grave no other symptom is so distressing to the patient. In cases of advanced arteriosclerosis there are often attacks of dyspnœa of great intensity recurring in paroxysms, often nocturnal. The patient goes to bed feeling quite well, and in the early morning hours wakes in an attack which, in its abruptness of onset and general features, resembles asthma. There is usually a sensation of precordial distress, a feeling of constriction and op-

pression, what the Germans call *Beklemmung*. Two other features about this form of attack will attract your attention—the evident effort in the breathing and the presence of a wheezing in the bronchial tubes and of moist râles at the bases of the lungs. The patient may spring from the bed and throw open the window in his terrible *air-hunger*, and he assumes an attitude most favorable to the working of all the accessory muscles of respiration. Slight cyanosis is usually present, and in severe paroxysms a cold sweat breaks out in the face and limbs. The pulse is feeble, often irregular, and very small, and on auscultation one hears either gallop rhythm or the fetal type of heart beat. Death may occur in the attack, as in Dreschfeld's case, the history of which I gave you in Lecture III. This form of cardiac asthma occurs with great frequency in some of the subjects of angina pectoris, as in Cases V and XII.

And, lastly, the type of breathing known as *Cheyne-Stokes* is sometimes a form of cardiac asthma, and it is not uncommon in angina pectoris. The curious pause in his respiration of which John Hunter spoke was probably a period of apnoea in a paroxysm of Cheyne-Stokes breathing. It was first described by Cheyne in a case of fatty heart, and you will find it more frequently associated with chronic myocarditis than with any other form of heart disease.

The following case presents features of Gairdner's *angina sine dolore*, with characteristic cardiac asthma:

Mr. X., aged sixty-seven, seen March 9, 1895, with Dr. Claribel Cone, complaining of attacks of terrible oppression in the chest and a sense of impending death.

The patient was a very large-framed, well-nourished, vigorous-looking man. He had been always a very active business man, temperate, but a heavy smoker; he began in his eighteenth year, and has used as many as eight cigars a day.

For several years he has occasionally been roused from his sleep with a feeling of oppression in the chest, but it has never been very severe. For the past two or three weeks he has been very short of breath, and has had paroxysms of great oppression in the chest, with dyspnœa, feebleness of the circulation, cold, clammy sweat, and a sense of impending dissolution. During these attacks there is no actual pain. Mental excitement or muscular exertion will bring on the oppression and dyspnœa. He came to-day, however, in the street car, and walked half a block without much difficulty. During the examination he had well-marked Cheyne-Stokes respiration.

The pulse was 104, of moderate tension, easily obliterated; the vessel wall was a little stiff. The apex beat was feeble, just at the mamillary line; there was no shock of either sound to be felt; there was gallop rhythm at the apex, but no murmur. The second aortic sound was a little accentuated. The liver was not enlarged.

At 11 p. m. on the 9th the patient had a very severe attack of terrible oppression in the breath, with drenching cold sweat which soaked the clothing. During the attack the pulse was 104 and regular. The Cheyne-Stokes breathing became aggravated during the attack.

In this patient the attacks were more than ordinary

cardiac dyspnoea. In addition to a sensation of awful oppression in the chest, there was a sense of impending death, and the cold, clammy skin showed profound involvement of the vasomotor system.

For several weeks this patient seemed very ill. There were two interesting points in his treatment. The digitalis seemed to have helped him very much when the pulse tension was low; subsequently he got a great deal of relief from the full doses of nitroglycerin. Through the winter of 1895-'96 he remained pretty well, though subject to occasional attacks.

I can not leave this question of cardiac dyspnoea, of equal importance pathologically and clinically, without referring briefly to certain recent works upon it. A. Fraenkel, in the third edition of the *Real-Encyclopädie*, under Asthma, has a full and clear statement of the condition. Rosenbach's *Herzkrankheiten* has the most exhaustive discussion on the whole subject, full of suggestive ideas, but not easy reading, apparently not even to his countrymen, as Professor Martius speaks of the *Lehrbuch* as "in einer etwas dunklen Sprache geschriebene." The essence of Rosenbach's views on the relations of cardiac asthma and angina may be gathered from the following sentence (page 377): "Dass nur eine Veränderung in der Art der Muskelcontraction, die die Stärke der Muskelleistung durchaus nicht zu beeinflussen braucht, wohl aber beeinflussen kann, Impulse für die sensiblen Bahnen liefert, die je nach der Erregbarkeit derselben und der Beschaffenheit der betroffenen Bahnen, die verschiedenen Formen von Schmerz und Angst auslösen, die wir als Stenocardie bezeichnen, während die Veränderung im Muskel die zur Leistungsschwäche führen, das Hauptsymptom des Asthma cardiacum, den wahren Lufthunger hervorruft." Or, as he says in another place, "die wahre Stenocardie ist ein blosses Zeichen der Regulationsstörung, das Asthma cardiacum ein Zeichen der Compensationsstörung."

Von Basch and his pupils\* have endeavored to show that whenever, either from spasm or weakness of the left ventricle, the blood pressure in the auricle is raised, cardiac dyspnoea follows in association with two important changes in the lungs, viz., swelling and diminished elasticity = *Lungenschwellung* und *Lungenstarrheit*. The swelling, which may even be determined by percussion, results directly from the overdilatation of the capillary network in the air cells, and to the same cause von Basch attributes the lessened elasticity. The ratio between the respiratory work and the intake of air is reduced; and, as Zerner remarks (*Studien*, Bd. iii), the peculiarity of cardiac dyspnoea is in this respiratory insufficiency, not in the rapidity and depth of the breathing. The "excursionsfähigkeit" of the lungs is lessened, and the amount of air inspired is not proportionate to the work done. Fraenkel also refers to the influence of the venous engorgement of the mucous membrane of the finer bron-

chioles as limiting the freedom of ingress and egress of the air to the alveoli.

When we recall to mind the features of the attack in cardiac asthma and in certain anginal seizures, the similarity of the condition, as Huchard remarks, to an acute emphysema, the views of von Basch appear to possess at least a reasonable probability.

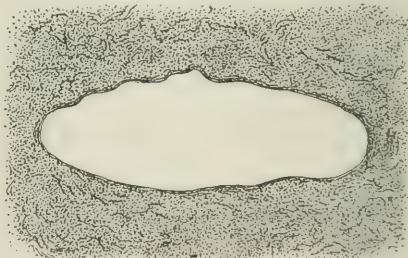
## Original Communications.

### THE CONTROL OF HÆMORRHAGE IN SOME OPERATIONS IN THE NOSE AND THROAT.\*

By A. COOLIDGE, JR., M. D.,

BOSTON.

IN many operations under an anæsthetic in the upper respiratory tract an important problem is first to prevent any possible hæmorrhage from threatening respiration, and, secondly, to be prepared to control the hæmorrhage locally. The question of the best position in which to place the patient for operation is an important one and depends largely upon the former. Except for this danger of blood in the pharynx, the most generally convenient position in which to operate is with the patient horizontal on a table. Less assistance is required than with a patient in a sitting posture, the light is generally better, and the patient is more easily handled in an emergency. On the other hand, if blood enters the pharynx, the direction of gravity hinders instead of help-



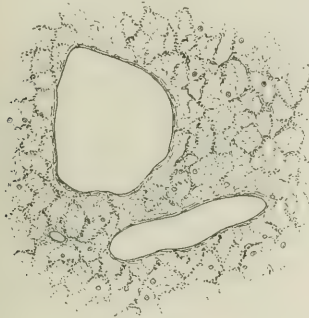
Fibrosarcoma.

ing us in keeping respiration clear, and this position is consequently impractical if the seat of operation is behind the posterior nares. But I wish to make a plea for its more frequent use when the source of bleeding is confined to the nasal cavities or accessory sinuses. This is made possible by the simple expedient of plugging the posterior nares from behind, which effectually stops all danger of blood finding its way into the pharynx. For instance, for the removal of a nasal new growth, or the

\* *Klinische und experimentelle Studien*, i, ii, and iii, particularly Bd. iii, 1896.

\* Read before the American Laryngological Association at its eighteenth annual congress.

correction of an extensive deviation of the septum, when the patient is anesthetized he is placed horizontally on the table, the cord for the posterior plug passed through the unobstructed nostril, a piece of gauze or sponge sufficiently large to close both posterior nasal openings attached, passed into the nasopharynx, and pulled firmly forward. This is removed when bleeding has stopped, before the patient recovers consciousness, and produces no disagreeable results.



Myxoma.

A modification of the horizontal position, what is commonly known as the Rose position, with the head bent sharply back over the edge of the table, keeps the blood away from the larynx by gravity. It fills the nasal cavities and comes out of the mouth, or flows over the hard palate and upper lip, and leaves the lower pharynx and larynx clear. I find this position recommended not only for operations in the nose and face, but also for cleft palate, adenoid vegetations, new growths of the pharynx, and for opening retropharyngeal abscess. There is no doubt that the blood all flows away from the larynx if the head hangs directly downward, but I think that to most operators this position is not entirely satisfactory. It is difficult to control the patient in case he moves or vomits, and the seat of operation at first seems upside down and hard to reach. Familiarity with the position undoubtedly lessens these disadvantages, but it seems to me that for the removal of adenoid vegetations, for instance, the amount of hæmorrhage is materially increased by the dependent position of the head. The nasopharynx fills up with blood and fragments of adenoid tissue, making it difficult to feel satisfactorily with the forefinger. This position is especially to be recommended for operations of the palate. A good light is obtained, and the parts are easily reached.

Another modification of the horizontal position is that of Trendelenburg, where the foot of the table is raised and the patient hung up, as it were, by the knees. Here the direction of gravity protects the trachea and bronchi as well as the pharynx. This is distinctly the position for thyrotomy, or for an operation deep in the pharynx, perhaps even for tracheotomy.

There remains the sitting posture, in which the patient is held in a chair opposite the operator. We are so accustomed to this position with patients who are not under an anæsthetic that it is natural that we should be influenced in its favor. If the head and upper part of the body are inclined well forward, the drainage of the nasopharynx is into the nose and not into the pharynx unless the nose is stopped. Most of the blood from the tonsils will come forward into the mouth. The pharynx is generally kept more or less clear, and the larynx protected by frequent swallowing, especially if the patient is not too profoundly under ether or chloroform; and it can be swabbed out if necessary. But the operator must bear constantly in mind that the only safe direction for the drainage, after blood has passed below the fauces, is into the stomach. In case the heart becomes weak this position is a bad one, and it may be necessary to lay the patient horizontal at any time. It is absolutely necessary for safety that sufficient assistance should be on hand to easily and quickly control the patient; to tip the head and body well forward in case of bleeding or vomiting; to keep the gag in place; to hand instruments or sponges, and if a special operating chair is not used, to transfer the patient to a table in case of collapse. This position is therefore much easier in the case of children than with adults, but with sufficient assistance it is the most universally applicable one for operations in the nasopharynx and mouth.



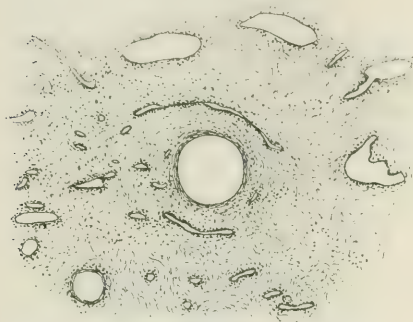
Angioma.

For the local control of hæmorrhage of any importance, if the bleeding vessel can not be seized, the first thing that we should think of is compression, if possible.



Any part of the nasal cavity can generally be reached anteriorly with suitable instruments, and strips of gauze carried to and packed firmly against the bleeding part. If a new growth, or an extensive deviation of the septum prevents this, and the obstruction can not readily be removed, it may be necessary to close the posterior nares from behind. It seems to me that attempts to control bleeding here or in the nasopharynx by styptics or astringents is generally a mistake. A constant outflow of blood washes away whatever is put on, from the only spot where it is needed, and irritates other parts, or fills the cavity with dirty coagula. Clean gauze left in place is more certain at the time and gives a feeling of security against secondary bleeding.

The probability of hæmorrhage as well as of pain must influence an operator in deciding whether an anæsthetic is necessary or not. If the patient is likely to be unruly it is often better to use ether or chloroform when otherwise it would not be done.

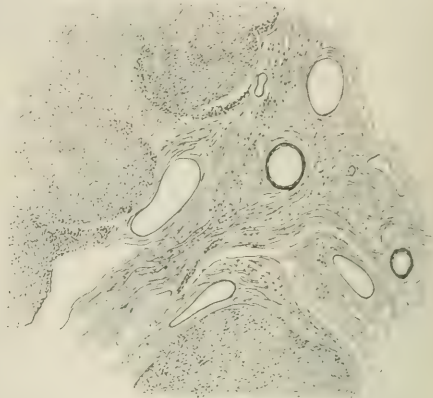


Fibroma.

The amount of bleeding which we may expect from the cutting through of an attachment of a new growth depends not so much upon the size and number of the vessels supplying the growth as upon the nature of the tissue surrounding them, and the consequent possibility of retraction of the individual vessels.

In order to show this more clearly, I have here sections of different new growths or hypertrophied glands. Each section is cut parallel to and as close as possible to the surface made by the instrument used for its removal, and, consequently, cuts directly across the blood-vessels entering the tumor. In the tonsil and adenoid vegetations the vessels are numerous, none of them large, and they enter free, parallel to the fibres of the interstitial tissue between the lobes of the parenchyma. They would therefore retract readily. In the pedicle of the myxoma there are a few large vessels, but here the structure of the neoplasm surrounding the vessels is so very soft that nothing hinders their speedy retraction. The fibroma and fibrosarcoma were clinically very similar. Both occurred in boys of seventeen. The tumors were both attached to the basilar process only, and filled

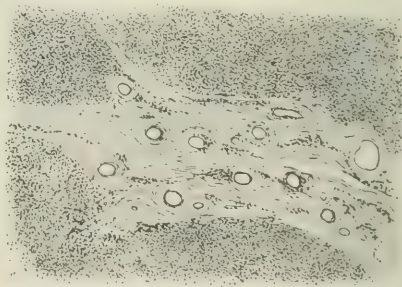
one lower meatus and the nasopharynx. They were both removed with the cold wire by the method which I will later describe. The pure fibroma bled freely and persistently; the fibrosarcoma did not. In the section



Faucial tonsil.

of the former we see a very large number of vessels, and, although not large, they have thick walls and are surrounded by dense fibrous tissue which might easily prevent their retraction. In the sarcoma, although there are much larger vessels, the softer intervascular tissue allows them to close normally when cut through.

As a rule, pedunculated new growths arising in the nasal cavity, even when they protrude well into the pharynx, can be removed with the help of cocaine only. Myxomata, myxofibromata, and similar tumors, even when cut through rapidly, seldom bleed long, the vessels, even if fairly large, retract easily, and by cutting



Adenoid vegetation.

through slowly with the cold wire, may not bleed at all. If the source of bleeding is confined to the nasal cavity, it can be controlled, if necessary, by proper packing through the nostril.

In the nasopharynx by far the most frequent operation is for the removal of adenoid vegetations, and an

anæsthetic is generally given on account of pain. The size of the vessels entering the growth is so small and the tissues so soft that bleeding, although profuse at first, stops in a few seconds. In removing adenoid vegetations from the nasopharynx, I have for some time attempted to estimate the relative loss of blood in the quick operation with a curette and the slower removal with forceps. In the former the immediate flow is greater; with forceps the total amount lost is generally more. After curetting, the head can be thrown forward so that most of the blood comes out of the nose; with the forceps it is more difficult to keep blood from the pharynx and stomach. Fortunately, serious bleeding either at the time or secondarily is extremely rare. Excessive bleeding at the time may be readily stopped by holding gauze firmly in place against the bleeding surface.

Secondary hæmorrhage is perhaps sufficiently rare to justify a brief report of a case.

L. B., a healthy boy, twelve years old, with no previous history of bleeding, had a moderately hypertrophied pharyngeal tonsil, a large part of which I removed with one sweep of a Gottstein curette, with cocaine, but without a general anæsthetic. The amount of bleeding was not excessive. The next morning, eighteen hours after the operation, there was a slight trickling of blood from the nasopharynx, which lasted half an hour. Three hours later it began again more briskly and persisted for two hours, when I saw him. He showed constitutional signs of loss of blood, although his condition was not serious. The bleeding was stopped by packing the nasopharynx. This was removed in two days without recurrence.

A slight amount of bleeding during the twenty-four hours after removal of the pharyngeal tonsil has been reported to me occasionally by adults; proportionally much less frequently in children.

Fibromata arising from the basilar process should not, in the writer's opinion, be attacked without an anæsthetic. Not only is it often necessary to work for some time with two or more fingers in the nasopharynx to break adhesions and get the wire loop well adjusted, an extremely unpleasant proceeding for the patient, but, from the nature of the growth, the best possible preparations must be made against hæmorrhage. Even a very slow constriction by the cold wire can not be relied upon with certainty, and the seat of attachment is too far back to be sure of effectual packing through the nose. With either the hot or cold wire bleeding is liable to start before the pedicle is cut through. An effective way of preventing much bleeding in removing this growth I have found as follows: With the patient in the sitting position a string is first passed through the opposite nasal cavity and out through the mouth, and to it is attached a plug large enough to fill the whole nasopharynx. This is left outside until needed. The wire loop is then passed through the obstructed side and around the pedicle, and the tumor seized by clamp forceps, anteriorly, unless it is too large to be delivered through the

nose; otherwise posteriorly. The wire is then tightened, at first slowly, but as soon as any bleeding begins the patient's head is thrown well forward, the pedicle cut through as quickly as possible, the growth removed, the posterior packing immediately passed to the vault, and the posterior part of the nasal cavity packed through the nose with strips of gauze.

I think we may justly say that the ability to pack with gauze quickly, accurately, and firmly through the anterior nares will, more than almost anything else, give a surgeon confidence in attacking this part of the body through the natural openings.

Cases of troublesome hæmorrhage, after amygdalotomy, in adults, both at the time of operation and secondary, have been reported frequently enough to be taken out of the class of rarities. Here, again, too much reliance must not be placed on styptics and astringents. Bosworth (*Diseases of the Nose and Throat*) calls attention to the fact that in a series of cases collected by him there is no instance in which hæmorrhage seems to have been arrested by any of the ordinary styptics. Holding a styptic firmly against a bleeding surface adds compression to the styptic effect, of which the former is probably the more important. A moderate hæmorrhage is often stopped or checked by flushing with cold water, or an astringent solution, but if the bleeding looks serious we should not waste time with such uncertain agents. These are the cases which do not respond. If the bleeding point can not be found, pressure offers the best results; although this is difficult both for the surgeon and the patient. The tonsil itself is rarely if ever the source of hæmorrhage in children, but the wounding of an adherent part of the faucial pillar may give rise to troublesome bleeding. This was probably the source of the hæmorrhage in the following case, which I report, because of the rarity of reported cases of troublesome bleeding in children:

In 1891 I was asked to remove the tonsils of G. C., a strong, healthy girl of nine years of age. The tonsils were equally large, and nearly met in the median line. I cut through the left, and immediately afterward the right with the guillotine. The bleeding, which was quite profuse at first, did not stop satisfactorily, and the blood was seen to come from the right side. A saturated solution of ferric alum produced no effect. The bleeding was stopped by compressing with the finger, wrapped in gauze, with counter pressure under the angle of the jaw, maintained for half an hour. It did not recur. Subsequent examination showed that the anterior faucial pillar had been slightly wounded.

If the hæmorrhage is serious, and can not be locally controlled, the question arises of tying one of the great vessels. In an excellent paper on the surgical pathology of hæmorrhage after amygdalotomy, Delavan \* shows conclusively that tying the common carotid is uncertain on account of the collateral circulation through the circle of Willis. The ligation of the external carotid, or of both

\* *Transactions of the American Laryngological Association*, 1888.

the common and internal, should effectually shut off the blood supply from this region.

The hæmorrhage in many of the reported cases has stopped when syncope has come on, from which Delavan recommends that fainting be encouraged rather than hindered. On this account, and to get what assistance the patient can give, it is better that no anæsthetic should be given if the amygdalotome is used. The most effectual way of avoiding hæmorrhage after removal of the tonsils is in the use of a burning or slow-cutting instrument. A cold-wire *écraseur* answers this purpose admirably, but in my experience is often attended by considerable pain. Cutting through quickly with the hot wire is less painful, but does not always control hæmorrhage.

In conclusion, I will merely repeat: The surgeon, when operating in the upper respiratory tract, should always be prepared for any possible hæmorrhage by putting his patient in the best position, and by having under his hand instruments with which he can reach any part of his field of operation, perhaps even do tracheotomy or tie large vessels. Although he possibly never, during his professional career, will save the life of a patient by his forethought, he will undoubtedly do better work, and shrink less from completing what his judgment recommends, in a large number of cases.

### NASOPHARYNGEAL FIBROMATA.\*

By CHARLES M. SHIELDS, M.D.,  
RICHMOND, VA.

OF the two cases of fibroid tumors which I have to report, one occupied both nasal and pharyngeal spaces, with extensive attachments in both, while the other was distinctly a tumor of the nasopharynx:

The first was that of a young man aged twenty-three years, of Boone, N. C., sent to me February 2, 1895, by Dr. Wakefield, of Charlotte, N. C., with the following history:

For more than a year an annoying discharge from the throat, with accompanying thickness of voice and difficulty of breathing through the nose, had given to the patient and his doctor the idea that he had catarrh, for which he was treated without improvement.

Frequent small hæmorrhages and increasing difficulty in breathing impressed both that a growth was present, and he was accordingly referred to Dr. Wakefield in September, 1894, who recognized the character of the growth, and with a cold snare removed a piece as large as a walnut. The improvement following this operation was not marked, and four months afterward, in January, 1895, the patient became so much worse that he again visited Dr. Wakefield, who referred him to me with the idea that resection of the superior maxilla would be required to successfully remove the tumor, which had greatly increased in size.

I found complete nasal stenosis, the left nostril being filled with the growth, and the right occluded by

the crowding of the septum to that side by the unrelenting pressure of the tumor. In the left nostril it presented at the opening, but so completely filled the space as to prevent any determination of its attachments. I could not push a probe through either side. Examination of the pharynx with the mirror showed the growth extending down nearly to the level of the lower border of the soft palate, and apparently filling the entire postnasal space. Pressure with the finger could displace it sufficiently to make out its attachments fairly well. Its base was broad and adherent to the basilar process above and for a short distance down posteriorly on the back wall of the pharynx, as well as to the left lateral wall. It sent a short projection into the right nasal space, but so completely filled the left side as to prevent any examination with the finger there. It was red in color and unyielding to the touch. The patient had had frequent small bleedings, but only one of any considerable amount. His voice was "dead" in character, and, as a result of the pressure, he presented the typical "frog face," having associated with it the expression of apprehension, indicating the anxiety he could not conceal.

The parts were cocaineized and an attempt made to engage the tumor with a curved cold-wire snare introduced through the mouth and pushed into position with the finger; but the broad base prevented the instrument from taking hold. Then a blunt hypodermic needle was pushed in the left nostril between the growth and septum and a ten-per-cent. solution of cocaine injected, which contracted the tumor sufficiently for a filiform bougie to be pushed in and through to the throat, after considerable manipulation. To its anterior end a piece of silk was fastened, and it, in turn, to the sharply bent loop of a piece of No. 5 piano wire, which was then pulled through into and out of the mouth and shaped into a well-rounded loop. The nasal ends of the wire were carried through the cannula of the snare, and, the growth being engaged as the wire was tightened, the cannula was pulled back into the nostril until it came in contact with the pharyngeal portion of the tumor. The nut was screwed up with a pair of gasfitter's pliers for five hours, when the wire broke.

On the following day the galvano-cautery loop was carried through the nostril in the same manner and without difficulty slipped into the cut made by the cold wire. It cut its way through the remaining portion in a few moments and the separated piece was pulled down and out of the mouth with the finger. The cut base of this piece measured an inch and a quarter in its narrowest and an inch and a fifth in its widest diameter. It was found to have been continuous in front by a rather narrow attachment to the tumor in the left nasal space.

After permitting the patient to rest a few days, the latter was removed with the cautery snare. It was attached to the outer wall of the nose for about seven eighths of an inch, which was one half the distance of its length, the anterior portion being free. As a result of its pressure, most of the middle turbinated bone had been absorbed. With the relief of pressure on the septum it sprang back sufficiently for the right side of the nose to easily admit the cautery snare for the removal of the third piece, which projected into that side, but was only attached in the pharynx.

The three small pieces were remaining portions that were subsequently removed.

Iridio-platinum wire was used and was found to be more springy and to possess greater strength than the

\* Read before the American Laryngological Association at its eightieth annual congress.



platinum. It was heated from the street current through an Aloe converter and was kept at a red heat for about fifteen or twenty seconds at a time while it was drawn up; then the patient was allowed to rest for a minute or two, and the process repeated until the growth was cut through. By turning on the current for short periods, with a rest between, the wire never becomes hot enough to produce hemorrhage of any consequence.

The patient returned home, feeling well, and with free nasal respiration.

The specimen shown in alcohol has become darker in color and somewhat shrunken.

The microscope shows it to be a fibroma, containing portions of an angiomatous character.

Three weeks ago (fourteen months after the operation) the patient returned for examination, and I found a projection at the site of the old growth in the left nostril, about the size of a grain of corn, which was removed. There was also a thickening at the seat of the main tumor at the vault of the pharynx which did not present sufficiently to be engaged in a snare, and was treated by galvano-cautery application.

The second case is now under treatment, and I report it thus prematurely because of the interesting fact that it occurred in a negro woman and after the age of forty-eight.

In the matter of age, while uncommon at this period, older patients have been reported. Nélaton, Gosselin, and other earlier observers had never seen a nasopharyngeal tumor in the female. Of sixty-six cases reported by Beusch only one was in a female—a girl of fourteen. Lincoln's collection of fifty-eight did not include a single woman, and Morell Mackenzie says that instances of the disease occurring in women must be looked upon as altogether exceptional; but subsequent examination of reported cases shows that the female does not possess immunity. As regards race, however, the case is unique. I have no knowledge of any instance reported in the negro. Bosworth says: "When we consider the great frequency of uterine fibroids among the colored races, we might naturally anticipate a similar frequency of fibromata of the upper air-passages, and yet, as a matter of fact, I know of no recorded instance of a fibrous tumor of the nasopharynx occurring in a negro."

The patient, Martha Turner, of Brunswick County, Virginia, gave her age as forty-eight years, but looks older, and is a nearly pure type of the negro. She stated that three or four years ago her attention was first attracted to her throat by the thickening of her voice and sensations of pressure. For two years there had been frequent small bleedings. These symptoms increasing, she consulted her doctor, who, after several visits, noticed the pushing forward of the palate and discovered the presence of the tumor. He thrust an aspirator into it, but, finding it solid, sent her to Dr. James R. Wheat, of Richmond, who, in turn, referred her to me.

I found the growth opaque-red in color, very hard to the touch, and, at the first examination, partly covered with a little dried blood. It pushed the soft palate well forward, and, when that structure was raised, about half an inch of the tumor showed below. The finger could be passed up on either side with a little pressure, although it very well filled the entire postnasal space and

was attached both to the posterior wall of the pharynx and to its vault. At the upper part it sent a short projection into the left nostril. The patient was in good health, complained of no pain, and was only annoyed by the sense of pressure in the throat and by the frequent bleedings, which, while not of sufficient amount to weaken her, kept her always apprehensive. A small piece was cut from the lower part of the tumor and submitted to Professor J. Page Massie, pathologist to the Old Dominion Hospital, for microscopical examination, who reported it a fibroid tumor.

The broad base of the tumor, and its attachment posteriorly and above, rendered its successful engagement with the cautery snare so uncertain that I decided to try electrolysis.

For six weeks this process has been repeated at intervals of three or four days, most of the application being made with needles attached to both poles. This occasioned so much pain, however, that the method was changed to that of inserting one needle in the growth and applying the other pole on a sponge electrode to the back of the neck.

There has been some reduction in the lower part of the tumor, but not enough to make me feel much encouraged to hope for its complete removal by this means.

My experience with true fibroid tumors of the upper air-passages has been limited to the two cases reported and to a third occurring in a girl of nine years, treated three or four times by electrolysis and then passing from my observation, but subsequently reported two years later as well by her mother. I do not regard the latter case as cured by the treatment, but as one of those that we know to sometimes undergo spontaneous disappearance.

As to the treatment of these tumors, I believe that there are very few, if any, that can not now be reached through the natural passages and managed with better results than after a resection of the superior maxilla or any other preliminary operation, and resort to such measures is rarely warranted. I can not conceive of any case much more difficult to reach in this way than the first one reported, where both nasal passages were closed and the postnasal space so completely filled up, and yet persistent manipulation rendered the engagement and removal of the growth successful. The use of the ligature, chemical caustics, thermo-cautery, evulsion, etc., are not worthy of consideration in comparison with the employment of either the hot or cold snare. As to the comparative advantages of the hot and cold snare, the attending circumstances will usually determine. The cold steel wire snare has, in the estimation of some operators, the advantage of being more readily applied on account of the loop better retaining its shape. In the majority of cases, however, the finger has to be used in the postnasal space to place the wire, and then the greater elasticity of the steel is of doubtful value. In all other respects I believe the cautery snare to be preferable. It performs its work with much greater rapidity, accomplishing in a few minutes as much as the cold wire requires hours to do, and in my experience without greater pain for that length of time than attends the use of the other for the much longer period.

In employing the method of applying the current for a few seconds and allowing the patient a short rest before turning it on again, there is entire freedom from pain during the intermission and the wire does not become hot enough to occasion hæmorrhage; while at the same time we feel confident of having an instrument capable of cutting through any growth with certainty, of which fact we can not be sure in the employment of the cold snare, as is evidenced by the instances reported of the breaking of the wire or instrument in large, dense tumors, and as was my experience in its use with the first case.

Another important advantage of the hot snare is, that after being placed in position over a growth without a constricted base, the wire can at once be buried and made to take hold by being heated a few seconds during the preliminary tightening, instead of slipping off as the cold wire often does.

Finally, while removing the growth it thoroughly cauterizes every portion of the remaining stump, doing at the same time what many operators advise after other methods of removal, the burning of the base, thus securing without subsequent manipulation any advantage that may result from that practice.

#### THE RELATION OF CHRONIC DISEASES OF THE NOSE AND THROAT TO DISORDERS OF DIGESTION.\*

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THE relation of chronic diseases of the throat, nose, and ear to disorders of the digestive tract is apparently not fully appreciated by the majority of even modern writers on these subjects. The relationship is not mentioned in some of the text-books, dismissed with a few words in others, and, in the writer's opinion, is not sufficiently emphasized in any. While, perhaps, the majority of writers mention dyspepsia and hepatic derangements as causes of pharyngitis, they lay, with few exceptions, but little stress upon such causes, evidently considering them of minor importance. This is shown by the liberal use of the text in describing methods for the local treatment of the disease and the omission of the suggestion for the necessity of treating the underlying cause. It is believed that a free discussion of the subject will result in a much better understanding of the degree in which diseases of the upper air tract are dependent upon digestive disorders and stimulate further researches in this direction.

The causes of chronic catarrhal pharyngitis mentioned in text-books on diseases of the throat, nose, and ear, and in monographs on pharyngitis, are very numer-

ous. The conditions and diseases which are given the most prominence, and upon which accepted authorities are more or less agreed, are: Frequent attacks of acute pharyngitis. Extension of catarrhal inflammation from the nasal passages or nasopharynx. Nasal stenosis. Nasal polypi. The excessive use of tobacco or alcohol. Improper use of the voice. Reflected irritation from a disordered digestion or diseases of the genito-urinary tract. Diseases of the glandular and nervous systems. Congested portal venous circulation. Lithæmia. Rheumatic and gouty diathesis. Dust. Smoke, in which acid fumes are inhaled, and sudden changes of hot and cold foods. While it is possible that all the above-mentioned conditions may play important parts as factors in the production or aggravation of catarrhal pharyngitis in certain cases, my belief is that in a very large majority of cases the cause of this disease will be found in some portion of the gastro-intestinal tract. Except in a few of those who have grossly abused the vocal apparatus in speaking and singing, I do not recall having examined a patient with chronic catarrhal or follicular pharyngitis in whom some disturbance of the digestion could not be detected. Indeed, I believe that some degree of indigestion in some portion of the digestive tract can be found in every case of pharyngeal catarrh, but whether the relationship of cause and effect always exists between these conditions is, perhaps, yet to be demonstrated. Nevertheless, that which I believe to be demonstrable is that one rarely, if ever, exists without the other, and this is in itself highly suggestive of a distinct relationship, and, perhaps, interdependence. It seems to me to be quite reasonable to suppose that many of the diseases and conditions mentioned as causes of pharyngeal catarrh may act indirectly as factors by first causing the disorder of the digestion.

Nasopharyngeal catarrh is often spoken of as our national disease, and I presume it is a fact that the disease is more prevalent here than in other countries. This is commonly attributed to the climate and its changeable character, to our unclean and dusty cities, and to various other conditions. In comparison with the inhabitants of other countries, we are a fast-living people, and our modes of life are highly conducive to the establishment of digestive disorders. There is probably no other country in which disturbances of the digestive function are more common than in ours. Catarrhal affections of the upper air-passages are known to be most prevalent where the climatic changes are the greatest, but I believe it will be found that catarrh of the pharynx, at least, prevails in communities where the general air of activity causes the habit of eating in haste and at irregular intervals. It is, perhaps, safe to say that the commonest error committed by the average American in ordinary daily life is that of eating hastily. Even in regions where catarrhal diseases are little known, as, for instance, the mountains in the northern part of New York State, but where the habit of eating improper food and eating rap-

\* Read before the American Laryngological Association at its eightieth annual congress.

idly prevails, especially among the working classes, I have rarely found what may be called a normal pharynx.

I refer in these remarks more particularly to the catarrhal form of pharyngitis, though I have observed many cases in which the follicular variety seemed to have been produced in the same way, or, perhaps, as the result of a pre-existing catarrhal inflammation, there being no history or appearance of lymphatic disturbances elsewhere.

With the view of assisting in determining the frequency of the concurrence of pharyngeal catarrh and gastric or intestinal indigestion, and also to show the almost universality of catarrh of the pharynx, I examined the throats and nasal cavities and asked questions in regard to the digestive function of fifty students of the Long Island College Hospital, none of whom had symptoms of sufficient importance to prompt them to seek medical advice, and most of whom were unaware that their pharynxes were not absolutely normal. Objection may be made to the selection of medical students for an investigation of this character on the ground that they live hurried and irregular lives. This is undoubtedly true, but I do not believe that they exceed in either particular the average man in large American communities. They represent a class of people living under the average conditions existing in the life of a large city, as well as that of smaller towns and villages, where the majority of these men have spent most of their lives. While, of course, the result of the examination of so small a number is not offered as in any sense conclusive, it is, nevertheless, highly significant.

Each one of the fifty was found to have a catarrh of the pharyngeal and faucial mucous membrane, varying in degree from a mild congestion to the atrophic variety of the disease. All but three gave unmistakable evidence of disturbed digestion of the stomach and intestines, fourteen of whom were the subjects of habitual constipation, and in one only was the tongue found in anything like a normal condition. Forty-five admitted that they were in the habit of eating rapidly, and often assisted the passage of the bolus by mixing fluids with the food in the mouth. Thirty-three were smokers. Sixteen had nasal obstruction, causing more or less mouth-breathing, and two were mouth-breathers at night, but without nasal obstruction.

The habit of rapid eating, which was found to be present in all but five of the students, would of itself have been sufficient to cause the disordered digestion from which they suffered. Even if the cause of the pharyngeal catarrh should be assigned to mouth-breathing in all of the eighteen cases mentioned, then only about one third of the whole number could have been caused in that way.

Thirty-three of this group were smokers. While tobacco smoke acts, no doubt, as an irritant in catarrhal diseases, as a matter of fact in the investigation of the throats of the students I did not find a greater de-

gree of congestion in those who were moderate smokers than in those who did not use the weed at all; but in those who used tobacco to excess the evidences of the habit were well marked upon the pharyngeal mucous membrane. Whether the effect upon the pharynx is direct or indirect, by causing the indigestion, it is impossible to say, but in whatever way it is produced it is quite certain that the use of tobacco alone is not sufficient to give rise to the amount of disease often seen in the throats of smokers. Many of the students who were brought up and had lived inland until they came to the seaboard to pursue their medical studies stated that there was a decided exacerbation of their catarrhal symptoms since coming to the city, but in nearly every instance they admitted that symptoms of indigestion had appeared which they had not had before, or that the symptoms which they had before were greatly augmented.

In only one of the students was the tongue found in a comparatively normal condition. A foul tongue is always accompanied by a catarrh of the pharyngeal mucous membrane, but a pharyngeal catarrh may present in connection with a tongue of nearly normal appearance.

Unless an analysis of the contents of the stomach is made, a diagnosis of a functional disorder of the stomach must be arrived at almost entirely from subjective symptoms. By the latter method we may readily fall into error as to the character of the disease, but with the aid of the stomach tube a comparatively exact diagnosis of gastric disorder can be made. With a knowledge of the stomach affection obtained in this manner the relationship of gastric disorders to catarrh of the upper air-passages can be more accurately determined.

In order to ascertain the pharyngeal condition in subjects of gastric disorder, the diagnosis of which had been made by an analysis of the stomach contents, Dr. Charles S. Fischer, of the Vanderbilt Clinic, in New York, kindly afforded me the opportunity of examining the throats and nasal passages of twenty-three of his patients whose stomach contents, after a test breakfast or dinner, he had analyzed. I am indebted to Dr. Fischer not only for his ready co-operation, but also for furnishing me with a copy of the record of each case, which contained the history, physical examination, chemical analysis, and diagnosis. A trifle more than half of the cases were neurotic in character. The remainder were mainly cases of chronic gastric catarrh. A pharyngeal catarrh, varying in degree, was found in every one of these cases. In four of the twenty-three cases the tongue presented a fairly healthy appearance. In four of the cases there was marked nasal obstruction, causing habitual mouth-breathing. In three, there was sufficient nasal obstruction to cause mouth-breathing during sleep, and in one there was habitual mouth-breathing without apparent cause. I asked Dr. Fischer to supply only female cases for my examination, and so eliminate the effects produced by the use of tobacco, and also to offset the investigation of the medical stu-



dents. While in the students' cases the contents of the stomach were not analyzed, nearly all of them presented subjective symptoms of gastric or intestinal indigestion, and, therefore, the two classes of subjects were in a general way alike. With the exception of those who smoked to excess there was no marked difference between the pharyngeal conditions in the two sexes, the degree averaging about the same in those whose stomach contents had been analyzed and those in whom the diagnosis was made from subjective symptoms. A careful study was made to determine, if possible, whether any constant pharyngeal condition existed in relation to the portion of the digestive tract affected or to the chemical character of the stomach contents in Dr. Fischer's cases, but with negative results. The appearances of the pharynx varied in cases in which the diagnosis of the digestive disorder was the same as much as in those in which it was found to be markedly different. While in two or three cases of gastric catarrh with gastroptosis the pharyngeal conditions were seen to be quite similar, the same conditions were found in the subject of a neurotic disturbance of the stomach.

Prominent among the causes of pharyngeal catarrh mentioned by modern writers is mouth-breathing due to nasal obstruction. Unquestionably, the continued mechanical irritation from cold, dirty, and dry air over the pharyngeal mucous membrane is quite sufficient to excite a considerable amount of disturbance by perverting the function of the secretory glands; but, as food must also pass through the mouth and must be hastily swallowed to free the way for air, the consequent overtaxation of the stomach and duodenum to digest food containing little or no saliva and not sufficiently disintegrated, results eventually in a chronic gastric catarrh, which, to my mind, is the more important factor in the production of the pharyngitis.

A chronic pharyngeal congestion is frequently found in the throats of speakers and singers, and it is the common belief that the disease in such cases is caused by strain of the vocal apparatus. Strain is frequently an important factor, and, at times, even the main cause, but in a large number of cases it is probable that the strain of the voice acts as an excitant of an already existing pharyngeal and laryngeal congestion which, without the strain, might never have been brought to notice.

From a clinical standpoint there is reason for the belief that functional disorders of the digestive tract are capable of producing vasomotor reflex irritation of the inferior turbinated bodies, as is evidenced by swelling of those bodies at certain times, as, for instance, on rising in the morning, and during attacks of acute gastric or duodenal catarrh. The proof of the connection is not only in the occurrence of the two affections at the same time, but also in the fact that the nasal irritation disappears after the acute indigestion has passed, or is diminished after improvement of the chronic condition of the stomach.

Beverley Robinson, in his very valuable paper on Dyspepsia as reflected in the Mucous Membrane of the Upper Air-passages, which was read before this association in 1888, suggests the probability of the mucopus from a catarrh of the upper air-passages being capable of exciting a gastric disturbance. Such a relationship of cause and effect seems to me to be highly plausible, though I am well aware that it is not generally credited. It is a mooted question as to whether the discharge from a chronic catarrhal inflammation in the nose is irritating in its character. The frequency with which catarrhal pharyngitis and laryngitis exist in association with catarrh of the nasal passages would suggest this, for it would not seem to be necessary to attribute such conditions to reflex irritation from the nose. The oropharynx will, I believe, always be found the seat of a catarrhal process when gastric catarrh is present. Laryngeal catarrh does not often exist as a result of a catarrh of the oropharynx alone, as that is a comparatively mild disorder and is not attended with much discharge; but when the nasal cavities and nasopharynx are involved in the process, because of the nature and extent of the glandular structures in those situations, the discharge is far more copious, and finds its way, to some extent, into the larynx, giving rise to a catarrhal inflammation of that cavity, but to a much greater extent is carried by gravity and the acts of swallowing into the stomach. If the catarrhal secretions flowing from the nasal passages are sufficiently irritating to excite congestion of the posterior pharyngeal wall, the mucous membrane covering the arytaenoid cartilages, and, at times, even the vocal bands, then, in all probability, are sufficiently irritating to cause a disturbance of the circulation of the mucous membrane of the stomach. But whether the discharges of mucopus from a catarrh of the upper air-passages are in themselves sufficiently irritating to excite a gastric disturbance is, perhaps, of little consequence when we consider that the process of fermentation of that material, which must occur in the stomach, would in itself be sufficient to cause irritation, not only of the mucous membrane of the stomach but of the intestinal tract as well.

The Eustachian canals and middle ears are not necessarily involved when the pharynx is the seat of catarrhal disease. Indeed, we do not know why it is that an extension into the ears occurs in one case and not in another, but it is safe to say that at least seventy-five per cent. of cases of chronic catarrh of the middle ears are caused by a catarrh of the nasopharynx. If my premises are correct, then a large proportion of the cases of middle-ear catarrh, dependent upon a pharyngitis, are indirectly caused by a gastritis or enteritis, and a proper appreciation of such an association would materially aid us in the treatment of that most persistently progressive form of ear disease.

A good voice, even for the purposes of singing and public speaking, is compatible with a moderate degree

of pharyngeal and laryngeal catarrh, but when the limits of reasonable use are exceeded, the circulation in the upper air tract is disturbed, active symptoms are presented, and loss of function ensues. It is that class of voice-users, where there is to be found an underlying catarrhal condition of the pharynx and larynx of mild degree, which we, as physicians, are most called upon to treat for impairment of the vocal function. If, as I believe, the underlying cause of the catarrh is in the majority of cases an impaired digestion, we render our patients but poor service unless we extend the treatment to parts lying far below the throat. Any treatment which has for its aim the arrest of a pharyngeal or laryngeal catarrh, partly or wholly dependent upon a disordered digestion, will surely fall short if it does not include such remedies and measures as a scientific investigation may reveal the need of to assist in the physiological and chemical performance of the digestive function.

The study of the stomach and its diseases has received a large amount of attention of late years, and, though much has yet to be learned, we are far better prepared than ever before to treat successfully the functional disorders of that viscus. An analysis of the contents of the stomach, after a test meal, made by a competent analyst, once in three or four weeks, will enable us to adopt the best course of treatment for a pharyngitis dependent upon a gastric disorder. Indigestion, even when not dependent upon organic disease of the thoracic or abdominal viscera, is commonly of such an obstinate nature that nothing short of a most careful study of each individual for causes and thorough attention to detail in the matter of diet and the administration of appropriate remedies will accomplish a cure. If the indigestion is improved or cured, and the pharyngeal disease is not eradicated, then such local remedial measures as are appropriate may be employed with markedly beneficial results.

When we consider the almost certain deterioration of the vocal powers, and the liability of the implication of the auditory apparatus from the steady progress of a pharyngeal catarrh, it behooves us to give to the study of this disease our best thought and closest scrutiny.

### A CASE OF GUNSHOT WOUND OF THE PHARYNX.\*

By D. N. RANKIN, A. M., M. D.,  
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ON October 10, 1894, I saw what I consider a very unusual case of gunshot wound of the pharynx. Two cicatrices were observable—one on each side of the neck about two inches below the lobes of the ears. Becoming interested in the case, I made further examinations, and discovered they were cicatrices from a gunshot wound. Upon looking into the throat, I found there were two

round cicatrices corresponding to the external ones, situated behind and a little below the tonsils, and between the inner ones was a cicatricial line connecting them and running directly across the posterior wall of the pharynx, this line being so superficial that the ball in its course must have merely touched the submucous tissue of the part involved.

At my request, the man wrote me the following history of the case. I will give it in his own words: "It was on the 6th day of May, 1847, when our party, consisting of myself, my servants, my physician, one dragoman, Dr. Tischendorf, my courier, and twenty-five soldiers, left Athens, taking a northwestern course to reach Missolonghi, but when we reached the foot of the Thermopylae I wanted to see the pass which was so heroically defended, 480 B. C., by Leonidas and his three hundred men against about fifty thousand Persians under Xerxes. But I was not destined to see it. On our right side rose the mountains to a height of from five hundred to two thousand feet, to our left was a great level plain. I was ahead of our cavalcade about a hundred to a hundred and fifty yards when I received a shot which penetrated my neck. The bullet went in on my right side about two inches below the lobe of the ear, and came out on the left side directly opposite the point of entrance. Of course, I dropped off my horse, and was picked up by my companions senseless. What happened during the next two months I don't know, except what I learned by hearsay afterward. The object of the shooting was robbery, and the shot fired at me was done by a very notorious brigand by the name of Kalisphenes. He was a member of a band of highway robbers, but three days after the accident happened to me they were nearly all caught, in number sixteen, leaving only four at large. All sixteen were promptly executed—hung by the neck.

"After two months' suffering (I had been removed back to Athens) I was well again, and started for Palestine. The above described has given some grounds for controversies among physicians as to the kind of a ball that was shot into my neck. Some said it was an exploding ball; others said it was not a bullet at all, but hacked or chopped lead. Since I have gained my full health, I don't care in what way or what kind of a ball was fired, but, dear sir, I assure you if the shot had come only half an inch more to the front of my face you would not be reading this report, but I would have found an early grave, for I was then twenty-one years old, and now I am sixty-one in good health."

I endeavored to learn some further particulars of the case, whether there was much hæmorrhage and difficult deglutition, or any traumatic fever, as to the means used in feeding him, etc., but was unable to obtain any facts from him further than are given above.

When we consider how vascular the mucous membrane of the pharynx is, and readily inflamed, we shall see that such inflammations, when traumatic, are peculiarly dangerous, in that they spread to the lining membrane of the larynx. In this case there was evidence of a distinct collection of connective tissue stretching across the posterior wall of the pharynx. When the tissue immediately outside the pharyngeal walls is lax, and favors the spread of effusion; when the inflammation of the pharynx is of an acute character, the effusion has been found to extend along the œsophagus,

\* Read before the American Laryngological Association at its eighteenth annual congress.

reaching the posterior mediastinum, and advancing then to the diaphragm. In the lax connective tissue between the pharynx and spine abscess is not infrequent.

Taking into consideration the immediate surroundings, the proximity to the large blood-vessels of the neck, the case at the time must have been considered a very grave one, and the man's escape from instant death was simply miraculous.

## A PENETRATING WOUND OF THE SKULL AND BRAIN.

### TREPHINING.

#### REMOVAL OF A SPLINTER OF WOOD AND A PIECE OF BONE.

### RECOVERY.

By F. U. FERGUSON, M.D.,

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My aim in reporting this case is to add a point in favor of early operation in fresh and penetrating wounds of the skull and brain. Not because I think delay would have made it more difficult to find the foreign bodies, but that infection would certainly have followed such a course. It was reported that the injury was caused by a car wheel, so that the exceptional character of the wound was not looked for. Inspection and palpation did not reveal any opening that would admit a foreign body. Therefore, I expected to elevate the depression, no more.

About 2.30 p. m., February 20, 1896, G. W. R., aged thirty-five years, a master driver in a mine with a thirty-four-degree slope five hundred feet long, was sitting on a loaded car, ready to be hoisted with the trip, when two empty cars, weighing fifteen hundred pounds each, broke loose at the top and dashed down the plane. He heard them coming and warned his fellow-laborers with the exclamation, "There she comes!" at the same time making an unsuccessful effort to get to a place of safety. He gathered himself out of the wreck and with the assistance of two men stepped into an empty car and was brought out. He was then put on a stretcher and hauled home in a sled. Here he made efforts and expressed a desire to help himself. While being undressed and washed he was seized a number of times with clonic spasms of the arms and legs and would say, "There she comes!" He would fall into a sleep with stertorous breathing but could be roused, and when spoken to would talk rationally. The wounds were a V-shaped laceration of the scalp on the right side with a comminuted fracture of the skull pressing on the brain, an inverted T (1)-shaped laceration of the forehead just above the left eye, a contusion of the structures about the left eye, contusions of the top and back of the head and over the left triceps tendon. The depressed portion of the skull seemed to be not more than five eighths by an inch, and was located on the binauricular line midway between the external auditory meatus and the centre line (glabella).

The head was shaved and the wounds were grossly cleansed. Dr. Bradley and Dr. Troxell kindly consented to assist. Ether was given, but the vomiting was so annoying that chloroform was used to finish the anæsthesia. I then made an attempt to remove the pieces of

bone, but this was followed by so much hæmorrhage that it was decided to enlarge the wound, which was done with a five-eighth-inch trephine and a pair of bone forceps. After the pieces of bone were picked out with hæmostatic forceps the opening in the skull measured about five eighths by an inch and three quarters. The blood welled up freely out of the lacerated tissues so that a small probe was used to explore the wound; a solid was felt and, after some searching, I succeeded in catching the object with a hæmostatic forceps, and with considerable force withdrew a splinter of wood that had penetrated the brain transversely. A piece of bone, a fragment of the inner table, a quarter by an inch and a half, also was found in the track of the wood. The splinter of wood measured an inch and three quarters in length; its large end, which entered the brain first, was pyramidal in shape; the ascending angles measured three eighths and half an inch, the perpendicular a quarter, and the base five eighths of an inch. It had come from the mortised end of a piece of three-by-four-inch oak scantling (one side of the brake lever, which is held to its felly by the tenoned ends of a like piece of wood). Hair and blood were found later on the piece and the splinter fitted to its former place. The bleeding was stopped with gauze compresses dipped in hot water and cooled until they could be comfortably handled. He was put to bed with hot-water bottles, and although the shock was considerable he rallied well. No sutures were used in the dura or scalp, but the laceration above the eye was closed with three sutures. The dressing—a pad of iodoform gauze—was laid over the pulsating brain, and the flap dropped on the gauze; then a pad of bichloride gauze held in place with a recurrent bandage. All was completed at five o'clock, about two hours and a half after the injury.

Two hours later I examined the muscles for paralysis. The injury to the brain being on the right side, there was complete motor paralysis of the left side of the body. The left side of the face and all of the left upper extremity did not respond to a pin prick. The left leg was sensitive; a pin prick in the left would cause the right leg to be pulled out of the way. The urine was drawn at 10 p. m., and twice daily thereafter for seventeen days. During the first night and the next day vomiting was frequent; a piece of corn-cob which he had in his mouth at the time he was struck was in the vomitus. Urine and fæces were passed involuntarily the first night. The wound was dressed daily for seventeen days in the manner described above. Sterilized water containing two per cent. of boric acid was used to flush the wound. At least a drachm of brain tissue came out at each of the first two dressings, and for four or five days brain *débris* and particles of coal came out on the gauze. No pus was seen and the wound granulated full in eighteen days, when the flap was let down, dusted with acetanilide, and not opened until union was complete. The temperature was 99.5° on the first morning after, and 100° in the evening; 100° on the second morning, and 99° in the evening; it did not rise above 99° after. The pulse was 78 and 84 respectively on the morning and evening of the first day after; on the morning and evening of the second day, 72 and 60 respectively. Its frequency diminished for six days, when it reached 48, and continued between 48 and 56 until March 9th. On this date it was 54 in the morning before rising and 72 in the evening, the patient sitting up. It went along at this rate until March 11th, when before rising it was 60.



March 12th.—Patient sitting up, evening pulse 78.

13th.—Patient in bed, 79. After this it was 72 when counted. Calomel was given daily, but the bowels only moved every four or five days. It was necessary to give morphine three or four times only. The appetite was very poor; some days we could force only eight ounces of milk. He drank water freely notwithstanding more or less dysphagia. For three weeks we had to coax him to take food. Doubtless the small quantity of food had something to do with the slow heart. The paralysis gradually passed off. On the first day after the injury he had some motion in the left leg. A pin prick was felt in the arm on the sixth day and motion was noticed on the seventh; this was followed day by day with a resumption of muscular functions, first the wrist, then the little and ring finger muscles, finally those of the thumb, index, and middle fingers. Sensation always preceded motion. The galvanic current was applied frequently during the fourth and fifth weeks; the patient thought the muscles had better tone after the applications. The contusion on the left arm received no attention. Three weeks after the injury I noticed the forearm could not be completely flexed. Force caused pain at the point where the arm was injured. The arm was forced into flexion and the adhesions broke up with a snap. On the 19th of May he returned to his work, but the hand had not yet its normal strength and the face still felt a "little stiff."

## EPITHELIOMA OF THE SOFT PALATE, REMOVED BY INJECTIONS OF LIQUOR POTASSÆ.\*

By THOMAS HUBBARD, M.D.,  
TOLEDO, OHIO.

A GENTLEMAN about fifty years of age suffered for several months from painful excoriations, caused apparently by the posterior edge of the upper dental plate. During the fall of 1893 there gradually developed a flat, tabular tumor, nearly as large as a nickel piece and about twice as thick. It was partly in the soft palate and partly in the anterior pillar of the fauces on the right side. It was very painful, and all faucial movements were restricted. There was an exuberant growth of papillomatous excrescences over the buccal surface of the cheek. He became addicted to the cocaine habit, which still further lowered his vitality. For this he tried sanatorium life and succeeded in temporarily breaking the habit. During the winter and spring of 1894 he subsisted on milk, oatmeal, and ice cream. He lost about forty-five pounds during the year. In the early summer of 1894 he relapsed to the former habit through the use of "Birney's catarrh snuff," which I accidentally discovered in his possession when I took charge of the case in August, 1894, and subsequently found to contain about fifteen grains of cocaine to the ounce of powder. It took several weeks to get him into condition for operation.

In October active treatment was begun. Injections of liquor potassæ were administered by means of an asbestos-packed syringe with a curved platinum needle. The pain was not severe, and by the use of cotton swabs and a very dilute acetic-acid solution the mucous membrane around the growth was protected.

At the second operation I injected quite deeply, carrying the point of the needle well beneath the tumor from five points at its circumference, depositing a portion of a drop with each puncture. A small artery was eroded, and the mass suddenly puffed up, but there was no hemorrhage. Inflammatory reaction was kept down by iced drinks, and only a bromide sedative was required. In three days the whole mass sloughed away, leaving a hole as large as a half cherry. This healed readily, and on two subsequent occasions small masses of proliferating granular or papillomatous tissue around the edges were injected and destroyed. The papillomatous masses in the right cheek were curetted and thoroughly destroyed by stick potash, care being taken to avoid the orifice of Stenson's duct.

The improvement following the subsidence of painful deglutition was remarkable, the patient gaining more than forty pounds in a few months.

In April, 1896, I examined him carefully and found the following condition: There were some papillomatous masses over the right cheek, caused probably by the dental plate and teeth, which he had resumed wearing soon after the tumor had been destroyed. At the former location of the tumor there was a dense, firm cicatricial mass, about as large as a nickel, which drew the uvula well over to the right side. There was no return of the tumor, and the function of the soft palate was not materially interfered with. For more than a year he had been in excellent health and had been at his office regularly.

In March, 1896, he had noticed a condition of progressive dyspnoea. Examination of the thoracic viscera revealed dullness over the base of the left lung and a pronounced cardiac murmur, diagnosed as mitral insufficiency. Subsequently, albumin, but no casts, was found in the urine by his family physician. From about May 1st he declined rapidly, all heart sounds becoming more faint and the dyspnoea increasing. There was considerable general anasarca. On June 1st he expired suddenly.

We were granted a necropsy. The dyspnoea was in part accounted for by a serous effusion in both pleural sacs, being more extensive on the right, but especially by degeneration and softening of the cardiac structures. The hypertrophied muscle of the left ventricle was so soft and friable that it was easily crushed between the thumb and finger. One segment of the mitral valve was completely tied down by adhesions. No atheromatous deposits were found. The kidneys showed indications of a subacute inflammatory condition, being somewhat larger than normal, with adherent capsules, and areas of fibroid contraction.

It may be interesting to add that in his youth he had had quite severe pulmonary hemorrhages, and was for several years thought to have pulmonary tuberculosis. We found both apices adherent, and over the right was a depressed cicatrix with a firm fibrous nodule, about an inch and a half by half an inch in size. There were no indications that the tuberculous disease was again in an active state, or that it had anything to do with the pleural effusion. The condition of the fauces was the same as previously noted. All the other organs were normal.

Prior to the operation a small piece of the growth was removed with scissors. This was sectioned and mounted, and the author is gratified to be able to quote the opinion of Dr. Jonathan Wright, of Brooklyn, as to the definite character of the tumor. "The surface epithelium is thickened, forming many layers with dis-

\* Read before the American Laryngological Association at its eighteenth annual congress.

tinect papillæ formation. Here and there are some large cells with cloudy contents and oval nuclei. The connective tissue is scanty, as are the blood-vessels. It is loosely arranged, and here and there in it are nests of epithelial cells, all apparently entirely unconnected with the surface epithelium, and in close proximity to some dilated blood-vessels. In those nests are some of the large cells noted in the surface epithelium. From absence of much inflammatory tissue, from the few 'cancer nests,' and the absence of distinct carcinomatous figures, I should think it of slow growth and not very malignant, but distinctly an epithelioma."

The sequence of pathological conditions was probably as follows: The valvular defect, cause not known, encouraged cardiac hypertrophy. Malnutrition from prolonged throat disease caused degeneration of the hypertrophied heart muscle, and the valvular defect thus became a prominent factor in his decline. The renal disorder was probably a late complication.

The papillomatous growth, which covered an area in the cheek about half an inch in diameter, involving also the mucous membrane over the alveolar process where it was in contact with the cheek, suggests a very decided abnormal tendency toward proliferation of the epithelial cells of the mucous membrane. There were at the same time areas of excoriated membrane over the soft palate. Transplantation of proliferating cells is a possibility. This is speculative, since both conditions may have originated from irritation from the dental plate or from smoking, but we are warranted in calling attention to the use of caustics as the superior method of removing such growths as are here described. There is no doubt but that the surgeon's knife is occasionally a medium of transplantation of cancer cells, and in view of this, and for other reasons, destructive chemical agents may often be used to great advantage.

## Therapeutical Notes.

**Sodium Chlorate in the Palliative Treatment of Cancer of the Uterus.**—Boucher, of Rouen, according to the *Therapeutische Wochenschrift* for August 16, 1896, prescribes the following:

R Sodium chlorate..... 2 parts;  
Distilled water..... 10 "  
Syrup of orange flowers..... 3 "

M. At first two "spoonfuls" (whether teaspoonfuls or tablespoonfuls is not stated) are to be taken in twenty-four hours, and the daily amount is to be increased gradually to eight "spoonfuls."

The following powder is applied on intracervical tampons:

R Sodium chlorate, 1 of each.... 2 parts;  
Bismuth subnitrate, 1  
Iodoform..... 1 part.

M. In addition, the vagina is irrigated daily with a solution of a hundred and fifty grains of sodium chlorate in a quart of boiled water. It is said that this treatment

often prolongs life for a year and makes it reasonably tolerable.

**The Treatment of Lupus with Maragliano's Tubercle-antitoxine Serum.**—Terrill (*Gazzetta degli ospedali*, July 12, 1896; *Therapeutische Wochenschrift*, August 9, 1896) has used this serum on two young subjects one of whom had lupus of the foot and the other lupus of the hand. The first one received, in all, a hundred and seven cubic centimetres of the serum (at first one cubic centimetre every second day, then five cubic centimetres every third day; the second got twenty-five cubic centimetres (five every third day), and was also treated topically with the serum. In each case the result was very gratifying, although a perfect cure did not take place. The infiltration subsided and the joints became movable. The local application of the serum was founded on its direct destructive action on the bacillus, as was shown by the healing of a tuberculous anal fistula after local injections of it.

**The Palliative Treatment of Cancer of the Cervix Uteri.**—At a recent meeting of the Lancetan Society of the Hospitals of Rome (*Wiener klinische Rundschau*, August 9, 1896) Dr. Marocco reported good results from tamponing with gauze impregnated with tannin, iodoform (ten per cent.), and powdered quinine.

**Ichthylol in the Treatment of Whooping-cough.**—Dr. L. Maestro (*Pediatrics*, June, 1896; *Therapeutische Wochenschrift*, August 9, 1896) reports experience with the ichthylol treatment of whooping-cough in Professor Cervasato's clinic in Padua. The drug was given in pills in daily amounts of from three quarters of a grain to three grains, according to the child's age, rapidly increased to from nine to fifteen grains. Mitigation of the frequency and severity of the paroxysms and shortening of the course of the disease followed in every case. The ichthylol caused no untoward symptoms; on the contrary, it bettered the general condition. Maestro regards it as one of the best remedies for whooping-cough.

**The Calomel Treatment of Hæmorrhoids.**—Dr. H. Naegeli-Akerblom (*Allgemeine medicinische Central-Zeitung*, 1896, No. 64; *Therapeutische Wochenschrift*, August 16, 1896), acting on the suggestion of Professor Massini, of Basel, has treated a number of cases of hæmorrhoids, large and small, internal and external, with an ointment composed of one part of calomel and nine parts of vaseline, and states that in none of them has he felt obliged to operate. In most cases the itching subsides completely. The suggestion is made that the calomel is changed into corrosive sublimate and acts as a caustic, and consequently should be used with caution if there is ulceration.

**Irritation of the Bladder from Sodium Bicarbonate.**—In a Paris thesis (*Centralblatt für Chirurgie*, August 15, 1896) Debains presents a study of this subject. It seems that Mathieu first called attention to the fact that the prolonged use of sodium bicarbonate sometimes gave rise to painful and frequent urination and even hæmaturia. These symptoms are of no grave import, for they subside at once when the use of the drug is stopped.

**Basic Orexine in the Treatment of the Vomiting of Pregnancy.**—Reich (*Centralblatt für Gynäkologie*, August 15, 1896) adds one case to the four reported by Frommel, in 1893, of the successful employment of basic orexine in the treatment of obstinate vomiting of pregnancy. He gave it in doses of four grains and a half,

in capsules, three times a day. The first and second doses were rejected in the course of a few hours, but after the third there was no more vomiting. The use of the remedy was continued for three days. Among the drugs that had previously been employed without success were nux vomica, potassium bromide, chloroform with tincture of iodine, and cocaine. The patient, who had lost sixteen pounds, recovered her weight in four days. With the exception of severe burning in the mouth after vomiting the first and second doses, she experienced no unpleasant effects.

#### Bromoform in the Treatment of Whooping-cough.—

The *Lyon médical* for August 16th publishes the following formula, which appeared in the August number of the *Revue mensuelle des maladies de l'enfance*:

R Bromoform,.....	48 drops;
Oil of sweet almonds, { each.....	22½ grains;
Gum arabic,.....	
Cherry-laurel water.....	60 “
Distilled water, enough to make... 3.75 ounces.	

The bromoform and the oil are mixed first and thoroughly shaken, after which the rest is added. One teaspoonful contains two drops of bromoform.

#### Sulphate of Duboisine as a Means of combating the Repugnance for Food in Patients with General Paralysis.

—At a recent meeting of the Congrès des médecins aliénistes et neurologistes de France et des pays de langue française, a report of which is published in the *Presse médicale* for August 15th, M. Francotte stated that he had employed a forty-per-cent. solution of duboisine in doses varying from a quarter to a third of a Pravaz syringe. In persons with general paralysis there had been a cessation of the repugnance to food. On the other hand, in the insane, the duboisine had been ineffectual. M. Francotte said that he could come to no definite conclusion, and he hoped to see his observations verified by others.

**An Application for Inflammatory Toothache.**—Dr. S. Wotjoff (*Therapeutische Monatshefte*, April, 1896; *Wiener klinische Rundschau*, August 23, 1896) recommends this mixture for toothache depending on inflammation of the dental pulp:

R Cocaine hydrochloride.....	1 part;
Camphor,.....	
Chloral hydrate, { each.....	50 parts.

M. Rub enough water with the mixture to make a clear solution, rinse the mouth with it, and insert into the cavity of the tooth a bit of cotton wet with the solution, to be retained for twenty-four hours.

**A Lotion for Pruritus.**—Dr. C. Boeck (*Monatshefte für praktische Dermatologie*, 1895, No. 3; *Wiener klinische Rundschau*, August 23, 1896) recommends the following formula:

R Talc,.....	50 parts;
Starch, { each.....	
Glycerin.....	20 “
Lead water.....	100 “

M. It is to be diluted with an equal amount of water when it is used. It is particularly useful in cases of itching associated with a foul discharge.

**The Treatment of Headache.**—The *Gazette hebdomadaire de médecine et de chirurgie* for August 23d recommends the following method, which is attributed to Dr. Critzmann: To diminish the hyperæsthesia, the painful region should be sprayed with Seltzer water, and immediately afterward energetic bilateral compression should be practised on the temples. Every two hours the pa-

tient should take a capsule containing the following mixture:

R Antipyrine.....	8 grains;
Sparteine sulphate.....	0.3 grain;
Caffeine citrate.....	1.75 “

M.

Four of these capsules may be taken, even if the pain has completely disappeared. If there is gastric intolerance, the mixture may be administered in the form of an enema. This treatment arrests the attack of headache, and often enables the patient to attend to his occupation; it suppresses the pain and the nausea, and renders unnecessary the consequent rest in bed to which such patients are apt to be condemned.

**Hyperidrosis.**—The *Revue internationale de médecine et de chirurgie* for August 25th states that M. Hensser has employed the following mixture with successful results:

R Formic acid,.....	5 parts;
Chloral,.....	
Alcohol.....	89 “
Balsam of Peru.....	1 part.

M.

This mixture is applied with a tampon of cotton. In generalized hyperidrosis it is well to spray the skin with it. When the localized sweating is particularly rebellious, M. Hensser adds trichloroacetic acid to this mixture in the proportion of one per cent. For combating sweating of the feet in soldiers, he recommends the employment of a one- or two-per-cent. solution of trichloroacetic acid. Unfortunately, it has the inconvenience of changing the color of any material with which it comes in contact.

**An Astringent and Antiseptic Injection for Uterine Leucorrhœa.**—The *Gazette hebdomadaire de médecine et de chirurgie* for August 20th publishes the following formula, which is attributed to M. A. Bustillo Lirola:

R Tannic acid.....	900 grains;
Pure alcohol,.....	450 “
Creosote, { each.....	
Distilled water.....	7.5 ounces.

M.

From three to four injections a day are to be taken, for each of which a dessertspoonful of the solution is to be diluted with a pint of warm water.

**The Treatment of Enteroptosis with Yeast.**—The *Presse médicale* for August 19th publishes an abstract of an article from the *Münchener medicinische Wochenschrift* for July 7th in which the author states that he has made use of this treatment in a large number of cases with successful results. Every day a small quantity of baker's yeast, of about the size of a bean, is given, and the fermentation provoked by the yeast causes a certain degree of flatulence which holds and immobilizes the intestine. Occasionally this flatulence becomes too great and provokes a feeling of distention; in this case the quantity of yeast must be diminished.

In a general manner, this treatment gives the patients a sensation of comfort. They are no longer inconvenienced with flatus, and this is attributed by the author to the peculiar action on the intestine of the carbonic acid which, under the influence of the yeast, is developed in the digestive tract. The stools become regular and abundant, and the distention of the intestine carries the aorta away from the abdominal wall so that the patients do not feel the beating of this vessel. Finally, the appetite becomes better and large quantities of food can be taken without difficulty.



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IS THERE A PHYSIOLOGICAL ALBUMINURIA?

At the recent French Congress of Internal Medicine, a report of which appears in the *Gazette médicale de Paris* for August 22d, several subjects of interest in renal pathology were considered in a paper by M. Arnozan. Among them was the question of the existence of an albuminuria having no significance as to the state of the person's health.

M. Arnozan stated that certain authors, Senator in particular, admitted that albumin was a normal element of urine, but this opinion was rejected at the present day by the majority of chemists and physicians. Others, such as Capitan, Leube, and Stewart, thought that albumin might exist in the urine accidentally and in a transitory manner, that is to say, that there was a physiological albuminuria independent of all diseased conditions. It was true, said M. Arnozan, that many persons enjoyed good health and led an active and even laborious life, although there was albumin in the urine; it was a mistake, however, to suppose absolutely that these persons had no defect. It was notable that this albuminuria called physiological was influenced by the same causes, such as menstruation, muscular work, cold baths, and digestion, which influenced the albuminuria known as pathological.

Certain advocates of the theory of accidental albuminuria, said M. Arnozan, even went so far as to say that this albuminuria was only the first stage or the onset of certain forms of nephritis, of the small red contracted kidney in particular. Therefore we must admit, with Lécorché and Talamon, that all albuminuria was pathological.

The pathogeny of albuminuria was extremely complex and authors had expressed many hypotheses on the subject. Gubler and Robin thought that, in its chronic forms at least, albuminuria was the result of an alteration of the blood. According to this theory, the blood being first diseased, the kidney was affected subsequently and allowed the normal albumin of the serum to filter through it. Other authors had admitted that the presence of albumin indicated important changes in the blood pressure, that there was an excess of tension, as in the albuminuria of cardiac troubles, or else that there

was, on the contrary, a slackening of the course of the blood. Afterward it was admitted that lesions of the epithelium, of the glomeruli, and of the convoluted tubules existed. M. Arnozan himself had ascertained that all the inflamed epithelia exuded more or less large quantities of albumin. The kidney, in allowing the albumin to pass, only conformed to the rule. He thought, then, that in acute nephritis the albumin must be considered as a simple product of inflammation. It resulted rather from an exudation than from a transudation. Proofs of these facts existed, said the author. First, formed elements of the blood were found besides inflammatory albumins; afterward, in degenerative lesions, such as cancer of the kidney, albumin might be absent. Finally, according to Ott, the emission of nucleo-albumin often accompanied the emission of serine or albumin properly so called. Now, the nucleo-albumin seemed to belong to the albuminurias which proceeded from disorganization of the epithelia.

Consequently, said M. Arnozan, albuminuria might proceed from an alteration of the albumins of the blood, from an affection of the renal circulation, from an epithelial lesion of the kidney, or from an inflammatory exudation discharged at the surface of the canaliculi. But this albumin did not carry with it the characteristics of its origin, and, as it could not give any information as to the extent of the lesions or as to their degree of curability, it followed that it was only a relative element in prognosis. It assumed, however, a greater prognostic importance when the study of the formed elements of the blood in the urine was joined to that of the urinary toxicity. M. Denigès, said M. Arnozan, had shown that when leucocytes existed in albuminous urine their number seemed to vary with the quantity of albumin eliminated. On the other hand, it was known that the less toxic the urine was the graver was the prognosis. Finally, we must also take into consideration the function of the kidney as a gland of internal secretion. Researches, however, on this point, said M. Arnozan, were as yet insufficient.

ADENITIS OF THE NECK AND CARIOUS TEETH.

A GERMAN surgeon, Dr. Starck (*Beiträge zur klinische Chirurgie*, xvi, 1; *Centralblatt für Chirurgie*, August 22, 1896), has been looking into the matter of the connection between simple and tuberculous chronic cervical adenitis and carious teeth. With reference to this point, he has examined upward of a hundred children between three and twelve years old. Excluding all cases in which any other possible cause could be assigned for the glandular swellings, such as an hereditary

tuberculous tendency, recent attacks of measles, scarlet fever, diphtheria, or angina, and the like, he has found that in forty-one per cent. of the children affected with chronic cervical adenitis no other cause could be recognized than dental caries.

Carious teeth, then, are to be set down as among the commonest avenues of infection in children, along with tonsillar tuberculosis. In five cases, of which the histories are given, unilateral tuberculosis of the submaxillary glands developed in immediate connection with toothache. In one of these cases two carious teeth were extracted, and tubercle bacilli came with them. In only one case was the tissue between the roots of the teeth found to be tuberculous.

Dr. Starck draws a practical lesson from his observations to the effect that surgeons should make it a rule, whenever they operate for tuberculous glands of the neck, to extract any carious teeth that may be present, since otherwise they may prove a source of relapse. Moreover, it follows from the importance of carious teeth as points of entrance for infection, especially in children, that endeavors to make adequate care of the teeth and mouth obligatory in schools should have the zealous aid of physicians.

### MINOR PARAGRAPHS.

#### THE NEW JOURNAL OF MEDICAL HISTORY AND GEOGRAPHY.

THE first number of *Janus*, the new journal of medical history and geography the prospectus of which we noticed some months ago, has made its appearance. It contains an introduction entitled *Janus Redivivus* by Professor Stokvis, printed in French, and nine other articles in French, German, and English. The American members of the editorial staff are Professor Osler, of Baltimore, and Surgeon-General Sternberg, of the army. *Janus* promises to be a very interesting and valuable periodical. It is published in Amsterdam.

#### THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

As will be seen by the orders which we publish elsewhere in this issue, Dr. John B. Hamilton, of Chicago, formerly the surgeon-general of the Marine-Hospital Service and now a surgeon in that service, has been ordered to San Francisco. As he is the editor of the *Journal of the American Medical Association*, it is to be feared that he will be very much hampered in his editorial work if he has to be stationed so far away from the seat of the *Journal's* publication. For the sake of the *Journal*, which he has much improved, we hope that the welfare of the Marine-Hospital Service will not call for Dr. Hamilton's prolonged absence from Chicago.

### ITEMS.

**The Buffalo Academy of Medicine.**—At the last meeting of the Section in Surgery, on Tuesday, the 1st inst., the

special order for the evening was a paper on The Digestive Ferments, with Special Reference to their Use in Surgery, by Dr. A. L. Benedict, and one entitled Eucaine, the New Local Anæsthetic, by Dr. Y. C. Clemensha. At the last meeting of the Section in Medicine, on Tuesday evening, the 8th inst., a paper on The Bacteriology of Diphtheria was read by Dr. W. G. Bissell, and a Report of the Antitoxine Treatment of Diphtheria in Buffalo was presented by Dr. Irving M. Snow.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 8, 1896 :

DISEASES.	Week ending Sept. 1.		Week ending Sept. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	21	6	35	6
Scarlet fever.....	26	2	22	3
Cerebro-spinal meningitis. . .	1	0	0	0
Measles.....	26	1	24	3
Diphtheria.....	142	25	132	27
Tuberculosis.....	192	107	151	83

**The Trip to Mexico.**—The New-York and Cuba Mail Steamship Company has issued the following circular, dated August 1st:

"This company has been asked to make arrangements in connection with the transportation of delegates to the Pan-American Medical Congress, to be held in the City of Mexico, November 16th, 17th, 18th, and 19th of the present year, at which it is expected a large representation of the medical fraternity of the United States will be present. The time of the year has been especially well selected, and the steamers offer every facility for speedy and comfortable travel. They are large steel boats, ranging from 3,500 to 4,500 tons, equipped with every modern appliance for safety, lighted with electricity, and with an unexcelled cuisine. The route is *via* Havana, Cuba, thence to either Vera Cruz or Tampico, Mexico, and by rail to the City of Mexico. It is an ideal voyage into tropical seas and a country of romance, history, and mystery—the land of song and sunshine—never to be forgotten. Excursion tickets for this trip will be sold at a reduced rate, or, if desired, arrangements will be made to issue tickets by which the holder can return overland by rail from Mexico or going overland, can return by steamer. It is an opportunity to make a very delightful trip at a reduced rate, and to combine the best features of tropical travel. Appreciating the advantages to be derived from carrying a fair representation of medical men over the route, this company is prepared to offer every inducement for their comfort and enjoyment."

**Free Silver and Medical Colleges.**—An esteemed correspondent who occupies a chair in one of the St. Louis medical colleges says, in a letter recently received: "Students are coming in fast. We have more present than ever before in the history of our institution, but I must say this silver movement has greatly affected our finances. I am astounded when I see sensible men, or men who by every manner and means should be sensible, cutting their own throats in this wild and unreasonable bypath of political economy. It has paralyzed all of our interests, even gone into medical life with its paralyzing influence."

**The Polish Physicians of Chicago.**—On the 29th of August the Polish physicians of Chicago organized a society which is to be known by the name of Towarzystwo Lekarzy Polskich (Polish Physicians' Society). It includes the following members: Dr. E. Czerniewski, Dr. M. Dowiat, Dr. M. Orgler-Kaczorowska, Dr. J. P. Kaczorowski, Dr. M. P. Kossakowski, Dr. W. Kuflewski, Dr. J. Piszczak, Dr. W. J. Sieminiowicz, Dr. W. Statkiewicz, Dr. B. F. Strzyzewski, Dr. J. Ziolkowski, and Dr. R. L. Lande, of Milwaukee. The society is to be for purely scientific purposes. The first regular meeting will take place at the residence of Dr. W. Statkiewicz, No. 3315 Laurel Street, on Saturday, the 12th inst.

**The New York State Association of Railroad Surgeons** will hold its annual meeting in the New York Academy of Medicine's building on November 17th, under the presidency of Dr. C. S. Parkhill, of Hornellsville.

**Changes of Address.**—Dr. W. C. Allen, to No. 1518 North Tenth Street, Philadelphia; Dr. A. J. Dunne, from Springfield, Massachusetts, to No. 124 North Street, Pittsfield, Massachusetts.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 30 to September 5, 1896:*

**REYNOLDS, FREDERICK P.**, First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Clark, Texas, and ordered to Fort McIntosh, Texas, for duty, relieving **WOODSON, ROBERT S.**, First Lieutenant and Assistant Surgeon. Lieutenant Woodson, on being thus relieved, is ordered to Jackson Barracks, Louisiana, for duty at that station, relieving **POWELL, JUNIUS**, Captain and Assistant Surgeon. Captain Powell, on being thus relieved, will report to the president of the examining board appointed to meet at the office of the Surgeon General of the Army, for examination for promotion, and, upon conclusion of examination, is ordered to Fort Riley, Kansas, for duty, relieving **TURRELL, HENRY S.**, Major and Surgeon. Major Turrell, on being thus relieved from duty at Fort Riley, is ordered to Willett's Point, N. Y., for duty, relieving **KOEPFER, EGON A.**, Major and Surgeon. Major Koepfer, on being thus relieved, is ordered to Fort Crook, Nebraska, for duty.

**WOODHULL, ALFRED A.**, Lieutenant Colonel and Deputy Surgeon General, is granted leave of absence for one month and ten days, to take effect about September 15th.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 5, 1896:*

**STITT, F. R.**, Passed Assistant Surgeon. Ordered to duty in the Bureau of Medicine and Surgery.

**LOWNDES, C. H. T.**, Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, and ordered to the Washington Navy Yard.

**MORRIS, L.**, Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia.

**COSTIGAN, G. D.**, Assistant Surgeon. Ordered to the Naval Laboratory for instruction.

#### Society Meetings for the Coming Week:

**MONDAY, September 14th:** New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Boston Society for Medical Improvement; Microscopical Club of the Buffalo Society of Natural Sciences; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

**TUESDAY, September 15th:** Mississippi Valley Medical Association (first day—St. Paul); New York Academy of Medicine (Section in General Medicine); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Buffalo Academy of Medicine (Section in Pathology); Baltimore Academy of Medicine.

**WEDNESDAY, September 16th:** Mississippi Valley Medical Association (second day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

**THURSDAY, September 17th:** Mississippi Valley Medical Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private).

**FRIDAY, September 18th:** Mississippi Valley Medical Association (fourth day); New York Academy of Medicine; Brooklyn Medical Society; St. Louis Academy of

Medical and Surgical Sciences; Baltimore Clinical Society; Chicago Gynæcological Society.

**SATURDAY, September 19th:** Clinical Society of the New York Post-graduate Medical School and Hospital; St. Louis Medical Society.

## Births, Marriages, and Deaths.

### Born.

**THOMSON.**—In New Haven, on Wednesday, September 2d, to Dr. and Mrs. Edmund S. Thomson, a daughter.

### Married.

**MEAD—MILLS.**—In Larchmont, N. Y., on Wednesday, September 9th, Dr. Edward I. Mead, of Greenwich, Connecticut, and Miss Mary Mills.

### Died.

**BUCHANAN.**—In New York, on Wednesday, September 2d, Dr. Alexander Buchanan, in the sixty-sixth year of his age.

**DEYO.**—In Kingston, N. Y., on Monday, August 31st, Dr. Charles W. Deyo, aged fifty-seven years.

**FARRINGTON.**—In New York, on Monday, September 7th, Dr. Edward S. Farrington, in the thirty-first year of his age.

**GUERIN.**—In Summerville, South Carolina, on Friday, September 4th, Dr. H. C. Guerin, in the sixty-ninth year of his age.

**HOPKINS.**—In New York, on Friday, August 21st, Dr. John Louis Hopkins, in the thirty-fifth year of his age.

**SHURLY.**—In Rhinebeck, N. Y., on Saturday, August 22d, Mrs. Elizabeth Shurly, wife of Dr. E. L. Shurly, of Detroit.

**MCLAURY.**—In New York, on Tuesday, September 8th, Dr. William M. McLaury, in the sixty-seventh year of his age.

## Letters to the Editor.

**BALSAM OF PERU AND BALSAM OF COPAIBA IN THE TREATMENT OF SCABIES, AND ERRORS IN MEDICAL LITERATURE.**

NEW YORK, August 29, 1896.

To the Editor of the New York Medical Journal:

SIR: In the controversy between Dr. Campbell and Dr. Coggeshall as to which balsam is meant in Waring's *Therapeutics* and which of the balsams is the remedy in scabies, it is my positive opinion that it is balsam of Peru and not balsam of copaiba. If Dr. Coggeshall's copy of Waring's *Therapeutics* has it balsam of copaiba, it is simply a slip of the pen or typographical error.

My opinion is based on the following three points:

1. While Peruvian balsam has for many decades been used in dermatological practice, copaiba has not been used in a single skin disease that I am aware of. The power of balsam of Peru to allay pruritus, due no matter to what cause, and its parasitocidal properties (due to its containing benzoic and cinnamic acids, styrol, toluol, etc.) are or should be well known to every physician.

2. Dr. Coggeshall quotes: "Each child was first washed with soap and water and then rubbed all over twice daily with the balsam." Now, if a child were



rubbed twice daily "all over" with copaiba, it would, I am sure, get such a severe, intractable dermatitis that the cure would be immeasurably worse than the disease—if a cure was affected, which I doubt very much, as the bactericidal and parasitocidal properties of copaiba have been shown to be absolutely nil.

3. I have not used and do not intend to use copaiba in scabies, but I have used balsam of Peru in that affection a number of times with excellent results. Though, perhaps, irrelevant to the subject of this letter, I will give in brief my treatment of scabies, which has not failed in a single instance. The patient is anointed with *sapo viridis*, which is left on for one to two hours. A hot bath of half an hour to an hour's duration is ordered, during which he is rubbed with tar or tar soap; after the bath (which is always ordered in the evening) the whole body is thoroughly rubbed with the following ointment:

R Sublimed sulphur.....	15 parts;
Potassium carbonate.....	5 "
Balsam of Peru.....	30 "
Lanolin.....	150 "

M.

This ointment is left on overnight, in the morning a bath is taken, and in nine cases out of ten the patient is completely free from his *Acari scabiei*. In some cases a second treatment is necessary. I tried the ointment without the balsam, but the results were not so satisfactory. In conclusion, I would say that nowhere are slips and typographical errors more plentiful than in medical literature. For instance, in this very last number of the *New York Medical Journal* (August 29th, page 298) I find the following:

"Three such pills, coated with balsam of Peru, are to be taken every day." Now, pills never have been and never can be coated with balsam of Peru. What is meant is balsam of tolu (a solution of the latter in ether, which on evaporation leaves the pill with a smooth, impermeable coating, protecting it from oxidation, decomposition, or deliquescence). But in this shape it will probably go the rounds of the medical press, and I should not be surprised to see some physician prescribe those pills and demand, to the consternation of the druggist, that they be coated with balsam of Peru. This recalls to my mind a case which came to my notice about a year ago.

A young physician, just beginning practice, prescribed "tincture of chloride of zinc." The druggist said he could not fill the prescription, as there was no such thing. Being friendly with that physician, I asked him *entre nous* how he came to prescribe that tincture. "Why," said he, "Professor Morrow recommends it for spermatorrhœa." And indeed, on looking up my Morrow's *System*, I found that Professor Morrow did recommend potassium bromide in combination with the "tincture of chloride of zinc" in 15-drop doses (Morrow's *System*, vol. i, p. 1013).

To my mind there was no doubt that the tincture of chloride of iron was meant, but to a non-critical or not well-informed physician an error in a book or journal may be of serious consequences. Of this I could relate many instances, but, as my letter is already about five times longer than I had intended it to be, I will put a period to it.

WILLIAM J. ROBINSON, Ph. G., M. D.

[In Waring's *Manual of Practical Therapeutics*, fourth edition, Philadelphia, 1886 (the only edition that happens

to be at hand at this writing), on page 225, there certainly occurs this statement: "As a remedy for scabies in children, Dr. Monti, of Vienna, employed the balsam of copaiba in twenty-seven instances," etc. In a footnote, Waring refers to the *Practitioner* for October, 1871, page 238, where we find an abstract of Monti's article, which is credited to the *Wiener medizinische Presse*, 1871, No. 28, and there it is balsam of copaiba that is spoken of and its use is said to be "less expensive than the similar method of treatment in which Peruvian balsam is employed." On referring to the *Wiener medizinische Presse*, we find an abstract of Monti's article, which was originally published in the *Jahrbuch der Kinderheilkunde*, and in that abstract it is certainly balsam of copaiba that is treated of.]

## Proceedings of Societies.

### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.*

The President, Dr. WILLIAM H. DALY, of Pittsburgh, in the Chair.

(Continued from page 333.)

**Nasopharyngeal Fibroid Tumor.**—Dr. E. FLETCHER INGALLS, of Chicago, read a paper on this subject. (To be published.)

**Nasopharyngeal Fibromata.**—Dr. C. M. SHIELDS, of Richmond, Va., read a paper on this subject. (See page 354.)

Dr. W. E. CASSELBERRY said: One might think that with due observance of the technique described in these papers, it was a comparatively easy matter to remove these fibroid tumors, but it is not always so. If the tumor is broadly pedunculated and not bound down by adhesions the plan will succeed, but if, as in one case of my own, the tumor is firmly attached in all directions by firm adhesions, binding it on each side to the orifice of the Eustachian tube and firmly to the posterior pharyngeal wall, the tumor itself sending prolongations into the nares, it may be impossible to envelop it by a wire. After working for hours I succeeded in removing but a small piece, and this by first cutting places for the wire through the adhesions and into the substance of the tumor. The patient passed from my observation; relieved, but not cured. I think an external operation for access to the growth would have been justified in this case, or, at least, splitting of the velum palati, to enable one to detach the adhesions and then to envelop the growth. Of course, all external operating is to be avoided when it is possible, by ingenious technique, to remove the fibroid tumor *per vias naturales*.

I recollect a case recited by Dr. Lincoln, of New York, in which he succeeded by electrolysis, and I am desirous of giving this a thorough trial for fibroma of the nasopharynx. I noted that the second paper mentioned that the bipolar method of electrolysis was the most painful. This is not my experience with electrolysis when used for the reduction of spurs of the nasal septum. It would seem natural that the unipolar method would be most painful, for with a large part of

the body as resistance in the circuit a stronger current must be used.

Dr. A. W. DE ROALDES said: Dr. Casselberry's experience has been mine. It is not easy to remove a growth, for the reason he has given, and you will often find that extensive adhesions will prevent the encircling of the tumor. In one case I became aware of these adhesions by the fact of my non-success. Upon a closer inspection of the post-nasal space I found extensive adhesions that I could almost see. You will find that slitting the palate, which can be afterward sewed up, will help you considerably. As to the removal of a portion of the maxillary bone, it will facilitate the handling of the tumor. I also concur in Dr. Casselberry's remark concerning the bipolar method for the reasons he has given. The resistance is certainly less. Your electrical wedge passes between the two electrodes, and in one of the cases in which I employed this method the results were good.

Dr. J. E. H. NICHOLS said: I agree with Dr. de Roaldes. In one case in which I desired to ensnare one of these growths I found it impossible to do so. After several hours of work I finally succeeded in removing it with my finger nail. There was no hæmorrhage, and the patient made a good recovery.

Dr. INGALS said: In getting the snare about the tumor, we do not try to do it from the anterior nares. If the tumor has a large pedicle or broad it is necessary to use a hot wire.

Dr. SHIELDS said: I never thought the manipulation easy; but by persistent effort I have always succeeded. Even if it does require a long time it is better than subjecting your patient to the dangers of a preliminary operation. With regard to cutting the palate, it is my experience that this is unnecessary if you accustom your patient to the presence of your finger. I put my finger up behind the palate and stretch it thoroughly, so as to make the parts susceptible to manipulation. I have been surprised to find the amount of stretching that is possible, and in a fairly good patient you can put your finger almost anywhere in the post-nasal space. Even if the attachments of the tumor are great, if you insert your finger for a moment to place the loop well up around the base, then remove it, and immediately turn on the current, you can accomplish your object. The heated wire will usually be found to be sufficiently buried to retain its position without slipping.

(To be continued.)

## Book Notices.

### BOOKS, ETC., RECEIVED.

Lehrbuch der Haut- und Geschlechtskrankheiten für Aerzte und Studierende. Von Dr. Max Joseph, in Berlin. Zweiter Theil. Geschlechtskrankheiten. Zweite vermehrte Auflage. Mit 29 Abbildungen im Text und einer farbigen Tafel. Leipzig: Georg Thieme, 1896. Pp. viii+416.

The Physiology and Pathology of the Cerebral Circulation. An Experimental Research. By Leonard Hill. M. B., Hunterian Professor, Royal College of Surgeons, London, etc. London: J. & A. Churchill, 1896. Pp. xvi+208. [Price, \$4.20.]

A Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods. For Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M. D., Late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. With One Hundred and Thirty-two Illustrations on Wood, and Ten Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xix-17 to 504. [Price, \$3.50.]

Minor Surgery and Bandaging, including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania, etc. Third Edition, thoroughly revised and enlarged, with Four Hundred and Seventy-five Illustrations. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-13 to 597. [Price, \$3.]

The Ready-Reference Handbook of Diseases of the Skin. By George Thomas Jackson, M. D., Professor of Dermatology in the Woman's Medical College of the New York Infirmary, etc. With Sixty-nine Illustrations. Second Edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. viii-13 to 594. [Price, \$2.75.]

Ptomaines, Leucomaines, Toxines, and Antitoxines, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph. D., M. D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, etc., and Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Third Edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xii-13 to 604. [Price, \$3.]

Rheumatism: its Nature, its Pathology, and its Successful Treatment. By T. J. MacLagan, M. D., Physician in Ordinary to their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein. Second Edition. London: Adam and Charles Black, 1896. Pp. xiii-324.

Rheumatoid Arthritis: its Pathology, Morbid Anatomy, and Treatment. By Gilbert A. Bannatyne, M. D. Glas., M. R. C. P. Ed., Hon. Physician to the Royal United Hospital, etc. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1896. Pp. xii-173. [Price, 7s. 6d.]

Southall's Organic Materia Medica. Being a Handbook treating of some of the more important of the Animal and Vegetable Drugs made Use of in Medicine, including the Whole of those contained in the British Pharmacopœia. Designed for the Use of Teachers, Pharmaceutical and Medical Students, Chemists, Druggists, and Others. Fifth and Enlarged Edition by John Barclay, B. Sc. Lond., Sometime Lecturer on Materia Medica and Pharmacy in Mason College, Birmingham. London: J. & A. Churchill, 1896. Pp. xix+307. [Price, \$2.10.]

A Manual of Venereal Diseases. By James R. Hayden, M. D., Chief of Venereal Clinic at the College of Physicians and Surgeons (Columbia University), New York, etc. With Forty-seven Illustrations. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-13 to 267. [Price, \$1.50.]

A Short Course of Experiments in General Chemistry, with Notes on Qualitative Analysis. By Charles R. Sanger, A. M., Ph. D., Eliot Professor of Chemistry in Washington University.

The Nebraska State Medical Society. Twenty-eighth Annual Session, 1896.

Prize Essays on Leprosy. Newman, Ehlers, Impey. London: The New Sydenham Society, 1895. Pp. 7 to 227.

## New Inventions, etc.

### A NEW TRACHOMA FORCEPS.

By E. G. RUST, M. D.,  
CLEVELAND, OHIO.

THE advantages of other forceps are combined in this instrument; it is a modification of Dr. Knapp's forceps, possessing the valuable roller feature of his instrument and the ability of the Noyes forceps to get into the fornix and angles of the lids. It is easily cleaned.



and the lines of construction are such that the rollers never bind.

Messrs. Tiemann & Co. have made several for me in their usual efficient manner and they have answered their purpose admirably.

## Miscellany.

### A Patient's Account of the Paris Pasteur Institute.—

The lay view of medical matters is often interesting. It is so, we think, in the case of the following account of a patient's observation of the working of the Institut Pasteur, reprinted in the *Sun* from the *Pall Mall Gazette*:

The Institut Pasteur is a substantial and handsome building, standing in a large garden with stables, kennels, and lapinière in the rear. It occupies a freehold site in the Rue Dutot, a street off the Boulevard Vaugirard, in a district on the south side of the Seine, remote from the fashionable centre of Paris. One side of the main building is occupied by the private residence of Mme. Pasteur, the widow of the illustrious founder of the institute. On the other side are a magnificent scientific library and the laboratories where work chemists of all nationalities. It will be understood that these laboratories, where experimental work is carried on, are entirely distinct from the hospital section of the institut devoted to the "antirabique" treatment. In the former, as I understand, experiments in different stages are now in progress for the treatment of croup, cholera, snake bite, etc. The gardens surrounding the institute are pretty and well kept, and here the patients lounge about and take their ease until the doctors arrive and the day's treatment begins.

About a quarter to 11 the day's performance begins. The concierge, a good-looking, soldierlike fellow with Napoleonic mustache and imperial, has struggled into a semi-military uniform, and stands sentry at the door of the doctors' room, and the great hall is filled with an expectant crowd of all ranks and conditions

of men. There are seldom less than sixty to eighty patients under treatment. Every day some new ones put in an appearance; every day some, their treatment completed, go, with hearty handshakes and good wishes. On the wall of the great hall hang announcements that "The anti-rabic treatment is entirely gratuitous," "The institute is supported by voluntary contributions." Patients wishing to subscribe are referred to the secretary's office. Whether they contribute or not is a matter between their consciences and their pockets; no knowledge of the subject comes into the operating department, nor, if it did, would the impartiality of the treatment be affected.

There is no priority under "la piqure" but the priority of the newest patient. There is not now the mixture of nationalities at the Pasteur Institute that was observable a few years ago. Spain, Italy, and Russia have all their own institutes, and the weary pilgrimages from these lands are ended, but in rank and condition, age and sex, the variety is endless and amazing.

The noise in the hall is increasing; a group of good-looking peasant girls are flirting, as good-looking girls will, with a crowd of lads; the flirtation degenerates into a romp, and the racket gets rather pronounced, so that one looks anxiously toward Napoleon, but he is a good-natured fellow and beams benignantly on the giddy young things. Presently he gives a stentorian shout of "Les Nouveaux," and silence settles down. It is the signal for new patients who have not yet undergone treatment to pass into the salle d'inscription for particulars of their cases to be taken down in the register. The examination is searching, and results in the institute becoming possessed of most facts of your family history and of the dog's as well, so far as the latter are ascertainable. The interrogatories are, of course, in the first instance, directed toward ascertaining the bare facts of each case, in order to prescribe the course of treatment. Fifteen days is the minimum period, which in more serious cases is extended to eighteen or twenty-one days. The number and position of the bites and the length of time which has elapsed before the patient reaches the institute are all factors in determining the result. In very severe cases what is called the "intensive" method is resorted to, a treatment which is admittedly not without risks. The prescription of the course of treatment is entirely in the discretion of the surgeon, but the broad rule is that a bite in the leg is the least important, a bite in the hand is somewhat more serious, and most dangerous of all is a bite in the head or face. If the dog have bitten one through one's clothes, and if the clothes have or have not been torn thereby, are also points which have to be clearly stated. Much of the information taken down is, however, required for statistical purposes. Although the institute refuses no case in which there is any suspicion of rabies, it is careful to classify its cases, according to the weight of evidence, thus:

Class A—Includes cases in which the biting animal has been proved by experimental inoculation to have been rabid.

Class B—In which a veterinary certificate of rabies has been provided.

Class C—In which no inoculation or veterinary examination has been made, but in which there was strong reason to believe that rabies existed.

The great element of doubt exists in the last-named class, and it is not surprising to note that over a long period of years the smallest percentage of deaths, 0.33,



occur in Class C. A veterinary certificate is, as a general rule, good evidence.

After the new patients' cases have been duly entered, the surgeon passes into the operating room, and a stentorian shout of "Preparez-vous" brings the waiting crowd to attention. Cases are treated in batches, the new being first attended to, and the others going in according to the stage of inoculation they have reached. After the inoculation, patients whose wounds are unhealed pass to another room, where they are dressed.

Each day at least one rabbit dies, the body is laid on ice, and, as soon as possible, dissected and the spinal cord carefully removed and suspended in a glass bottle, the bottom of which is covered with a layer of caustic potash for the absorption of moisture. The bottle is labeled with the date and put away in a cupboard in a room kept at an even temperature, from which daylight is always excluded. Each spinal cord will supply material for about thirty inoculations. The fluid for inoculation is prepared by crushing a small piece of this dried cord with rather more than six times its bulk of sterilized veal broth. From one to three cubic centimetres (fifteen and a half to forty-six and a quarter drops) of the fluid are used for each inoculation. Patients are inoculated in the sides, which are first dabbed with a solution of perchloride of mercury, and on the first day of treatment they receive injections on both left and right side of virus that has undergone fourteen and thirteen days' drying. This mild preparation confers protection against the effect of the second day's inoculation, for which virus of the twelfth and eleventh days is employed. On the third day ninth and tenth days' virus is used. After the fifth day the inoculation is made on one side only. By that time the virus of the sixth day's exposure is reached. Every day's treatment up to the ninth day shows a progressive increase in the strength of the virus, each injection conferring immunity against the effects of the stronger one by which it will be followed. On the ninth day the patient receives an injection of the most virulent virus used, that of the third day's exposure, which is fully equal in activity to the bite of a rabid dog. After that a somewhat less active virus is employed until the fourteenth and fifteenth days of treatment, when virus of the fullest activity is again used.

This is the ordinary treatment. Under the "intensive method," the operations are in the beginning repeated twice daily, so that four days' strengths of virus are used each day, the result being that the more virulent preparations are reached in a hazardingly short space of time, so that the risk of the patient's constitution standing the strain is an appreciable one. This treatment is only resorted to in cases of great severity.

All rabies statistics are more or less unsatisfactory, and it is difficult to arrive at any very exact figures as to the proportion of deaths that occur in cases where no precautionary measures have been adopted. The truth probably is that of persons bitten by rabid dogs six out of ten escape without very ill effect. The odds of six to four in one's favor in the race between life and death are not heavy, and if the Pasteur treatment can, as its latest figures show, increase them to three hundred to one, I think the Pasteur system will be held to have proved its value.

The charge has been made against Professor Pasteur that "he has invented a new disease, the addition of paralytic symptoms to the old hydrophobia." There is nothing new in dumb rabies. It is the all but invariable form the disease takes with rabbits, while it is unusual

in dogs and human beings, who generally develop rabies or hydrophobia in the raging form. That the patients who succumbed under the intensive treatment should have shown paralytic symptoms is curious, but similar cases were recorded long before the Pasteur treatment was established.

It seems probable that these deaths were due primarily to want of proper care, especially in the avoidance of cold. The defect of the system at the Pasteur Institute is the total absence of any direction to the patients as to the rule of life to be observed while under treatment. The only point that is impressed upon them is that they should take frequent warm baths. And, from the mixed nature of the company, this recommendation is perhaps made as much in the interest of doctor as in that of patient. Nothing, however, is said, by way of warning, against catching cold, and it seems almost certain that where paralytic symptoms have set in they have been the direct result of a severe chill taken in the middle of the treatment. Doctors of all nationalities are unanimous in the opinion that the treatment causes no pain or inconvenience. I do not find, however, that any of the doctors have ever undergone it. While it is quite true that no permanent painful consequences result from "*la piqûre*," it is equally true that it causes at times a good deal of local pain and discomfort. Children, on the whole, bear it best, and get soonest hardened to it. I have seen two cases of boys who fainted dead away on the first inoculation, who by the third or fourth day were perfectly indifferent to the whole process, left off their games to go in the "*piqué*," and came out to resume them with grins on their faces. Persons of maturer years, especially men of full habit, occasionally suffer a good deal from inflamed and swollen sides, and poultices and hot baths are the only alleviations. A conviction of the unimportance of the symptoms makes the doctor serenely indifferent to the patient's sufferings, which are sometimes accentuated by needlessly rough handling. Apart from merely local affections, the only noticeable effect of the treatment seems to be a tendency, more or less pronounced in different individuals, to cramp in the limbs, a modified form, it is to be assumed, of the paralysis of dumb rabies. But these symptoms seldom last longer than two or three days.

**The Medical Society of the Missouri Valley.**—The ninth annual meeting will be held in Council Bluffs, on September 17th, under the presidency of Dr. Frederic S. Thomas, of Council Bluffs. The programme includes the following titles: Something About Instrumental Labor, by Dr. F. Damour, of Boileau, Missouri; A Case of Anterior Dislocation of the Head of the Radius, by Dr. G. W. Boot, of Hartley, Iowa; Operative Techniques in Appendicitis, by Dr. C. C. Allison, of Omaha; Skin Grafting: a New Method, by Dr. J. W. Kime, of Des Moines; A Case of Chronic Pharyngitis Simulating a Tumor, by Dr. F. W. Dean, of Council Bluffs; The Treatment of Burns of the Conjunctiva, by Dr. D. C. Bryant, of Omaha; Breech Presentations, by Dr. A. D. Wilkinson, of Lincoln, Nebraska; Two Cases—Gastrochaphy for Dilatation of the Stomach, and Prosis of the Transverse Colon; and A Successful Gastro-enterostomy with the Murphy Button, by Dr. J. E. Summers, Jr., of Omaha; The Treatment of Hydrothorax and Empyema, by Dr. J. M. Emmert, of Atlantic, Iowa; Congenital Dislocation of the Hip, by Dr. B. B. Davis, of Omaha; Retrograde Catheterism, by Dr. A. F. Jonas, of Omaha; Mental Dynamics and Psycho-therapeutics, by Dr. W.

B. Lawrence, of Red Oak, Iowa; An Instructive Case of Labial Cyst, by Dr. R. M. Stone, of Omaha; Typhoid Fever, by Dr. M. C. Christensen, of Council Bluffs; Remarks on Appendicitis, by Dr. F. W. Porterfield, of Atlantic, Iowa; Meningocele, with a Report of a Case, by Dr. J. P. Lord, of Omaha; Pulmonary Tuberculosis; its Etiology, by Dr. C. Engel, of Aspinwall, Iowa; A Case of Gunshot Wound of the Rectum, by Dr. V. L. Treyner, of Council Bluffs. Other papers will be read by Dr. J. B. Barstow, of Council Bluffs, and Dr. R. Hanna, of Red Oak, Iowa.

**The Hack Tuke Memorial.**—The great respect in which the late Dr. D. Hack Tuke was held, both in England and in America, has led to a generally expressed desire that his memory should be perpetuated in connection with the great work to which he devoted his life, viz., the amelioration of the condition of the insane and the advancement of neurological and psychological medicine. With the view of carrying out this object, a committee has been appointed to solicit subscription in the United States and Canada. The fund obtained will probably be used to found a library in connection with the British Medico-psychological Association, to which Dr. Tuke's personal library has already been given. The committee ventures to make an earnest appeal for subscriptions to carry out this worthy object. Subscriptions may be sent to Dr. Charles W. Pilgrim, Poughkeepsie, N. Y., Dr. Charles G. Hill, 317 North Charles Street, Baltimore, or Dr. Frank C. Hoyt, Clarinda, Iowa.

**A Correction.**—We are requested to make the following correction, on page 318, in Dr. de Schweinitz's article on Hog Cholera, which appeared in the issue of the *Journal* for September 5th:

**Guinea-pigs.**

No. 348, wt. 12 oz.,	check, received	$\frac{1}{10}$ c. c. swine-plague culture only.	
" 249, " 8 "	" " " "	" " " "	and 3 c. c. serum.
" 350, " 11 "	" " " "	" " " "	" 5 " "
" 351, " 9 "	" " " "	" " " "	" 6 " "
" 352, " 8 "	" " " "	" " " "	" 6 " "
" 353, " 8 "	" " " "	" " " "	" 12 " "

Page 318 should read, ninth line from the bottom, "the swine-plague serum protected from or cured swine plague only, the hog-cholera serum protected from or cured hog cholera only."

**The Physiological and Therapeutic Action of Eucaïne.**—The *Nouveaux remèdes* for August 24th states that Gaetano Vinci has undertaken some experimental researches in regard to the physiological action of eucaïne (*Therapeutische Wochenschrift*, 1896, No. 18), and the results show that its physiological action is identical with that of cocaine. It is distinguished from cocaine by its slight toxicity and by the fact that it provokes a slackening of the pulse and hyperæmia, instead of the acceleration of the pulse and the ischæmia which follow the employment of cocaine. Eucaïne, then, occupies an intermediate position between cocaine and the group of local anæsthetics called by Liebreich painful anæsthetics. It is ranked with the trepacocaine which was made the subject of investigation by Chadbourne some years ago. Finally, eucaïne exercises no influence on the condition of the pupils.

With regard to its therapeutic action, says the writer, in ophthalmology it is as persistent and as energetic as cocaine. Its instillation does not cause mydriasis or paresis of the muscles of accommodation, and, owing to this property, it is indicated always when it is necessary only to obtain anesthesia without concomitant is-

chæmia. If the inflammation is very pronounced, cocaine is preferable. Other advantages of eucaïne are that its solutions do not become decomposed, and they may even be kept for a long time; furthermore, they may be submitted to prolonged boiling without being decomposed. In dermatology eucaïne has shown itself to be a good analgetic. In affections of the throat and nose it has not only demonstrated its anæsthetic action, but its complete harmlessness. An important fact to be noted here, says the writer, is the entire absence of all disagreeable effects upon the heart.

Schleich has employed eucaïne in solutions for anæsthesia of the mucous membranes and for anæsthesia by infiltration, in order to make a comparison of its action with that of cocaine, and there is no doubt, says the writer, that eucaïne may completely replace cocaine when it is necessary to obtain anæsthesia of the mucous membranes. The superficial anæsthesia which is obtained in these cases is not less pronounced than with cocaine; in a solution of the same strength, the results are more favorable with eucaïne. He also has ascertained that eucaïne is destitute of any energetic ischæmic action, and he has never observed any toxic symptoms following its employment.

On the whole, the author concludes, says the writer, that eucaïne may completely and advantageously take the place of cocaine whenever anæsthesia is to be provoked by simple contact, such as painting the mucous membranes.

Kiesel has employed eucaïne with great success in extracting teeth, and he confirms the assertion of others in regard to the entire absence of an unfavorable influence upon the heart. The anæsthesia following its use persists for a longer time and extends over a larger surface than that provoked by cocaine. The aqueous solutions of eucaïne which are kept at ordinary temperatures remain limpid. According to the author, as much as thirty grains of eucaïne may be injected without danger to the subject; that is, twelve entire syringefuls of a fifteen-per-cent. solution may be injected without danger. Half this quantity is sufficient for the extraction of teeth, and the patient suffers no pain during the operation. However, it is not always wise to consider eucaïne as a completely inoffensive substance, and it should be carefully administered when given in the same quantity and the same strength as cocaine. The great stability of the eucaïne solutions is another advantage which this drug has over cocaine.

**An Obsolescent Variety of Cretinism.**—Under this heading the *British Medical Journal* for August 29th published the following communication from Dr. William Rushton Parker:

Cretinism is produced by lack of thyroid function in youth, and varies in proportion to the lack of function and to the degree of youth at which the lack occurs. One variety is embryological, due to thyroid non-development or partial development, and is analogous to any other malformations by deficiency, such as acardia, acephalism, anencephalism, absence or arrested development of testicles, ovaries, uterus, or any other organ.

A second variety is due to atrophy of the thyroid parenchyma, occurring occasionally after a serious illness in childhood, and analogous to the atrophy of the testicles after mumps.

A third variety is due to goitrous degeneration of the thyroid body. This third variety seems to be fast vanishing from this country, judging from its extreme rarity



among the many scores of cases brought before the British Medical Association at its recent annual meeting. Nor is this to be wondered at, seeing that goitrous cretinism is most likely to occur in the worst breeding grounds of goitre (namely, in valleys where the right conditions for goitre happen to exist), and which are sufficiently secluded and benighted to induce frequent intermarriage among goitrous families. Improved sanitation and the opening up of secluded valleys will exterminate this variety of cretinism.

Half a century has not yet elapsed since Dr. Hugh Norris described the endemic cretins of the little Somersetshire village of Chiselborough, lying in a small valley hemmed in on all sides but the west by hills over four hundred feet high, its temperature mild, its lower part damp and dirty, and its immediate neighborhood densely wooded with orchards. In this small village of five hundred and forty inhabitants he found: (a) Four goitrous idiots, two of either sex; (b) sixteen goitrous imbeciles, four male and twelve female, all unable to articulate intelligibly, all with very bad memories, and all except one unable to earn a living; (c) five goitrous deaf-mutes, all females; (d) two or three hundred goitrous villagers, with low intelligence and defective speech, the most goitrous being also epileptic.

The above creatures were stunted and thick-set, with large head, abundant coarse hair, low forehead, small sunken eyes, broad face with flat nose, large mouth with thick lips, and rickety limbs, the expression laughing or pained or vacant, the gait waddling. They were mostly weak, mild, and harmless, and, if mischievous, only so from irresponsible ignorance.

The females greatly predominated, as in goitre. There was imperfect sexual development, though some of the worst cases bore children. The semi-imbeciles transmitted their imbecility to some, not all, of their children. The cretins prevailed mostly in the lowest and poorest parts of the village, but were not absent from the highest and most airy parts, or even from the families of well-to-do farmers. Several green, stagnant pools existed in the place; the air was necessarily stagnant, and often reeking with rotten vegetation; young strangers became goitrous on settling there; intermarriage was unusually common, and many similar cases existed in an adjoining parish.

Dr. Hugh Norris, who still lives in the same neighborhood, tells me that one solitary cretin now survives of about fifty years of age, the march of civilization having apparently stamped out the disease.

**Mental Therapeutics.**—Dr. A. T. Schofield (*Lancet*, August 29, 1896) thus concludes an address on this subject:

I have already pointed out how completely the whole of this science is ignored. Its power is everywhere seen and felt—in out-patient departments, in the hospital ward, in the consulting room, and by the sick bed; but it is seldom spoken about, and still less often taught, though few are bold enough to deny the potent powers of mental therapeutics for good. If one turns from the physician's daily life to his library one still fails to find in any modern system of medicine the subject fairly and fully recognized. I have looked through many leading systems of medicine, but in no standard work can I find this subject fairly considered and discussed. A volume called *Suggestions in Therapeutics*, from Nancy, shows the use of the unconscious mind as a curative agent when under hypnotic suggestion; but we want far more than

this. Here and there great masters in medicine have admitted the enormous value of mental therapeutics, but the subject has not been followed up save for the sake of filthily lucre by quackery. It is the same in the teaching, clinical or otherwise, in the hospitals or class-rooms. Students listen with rapt attention to the powers of guaiacol, piperazine, phenocoll, and the whole round of well-advertised modern drugs; but how often is their attention directed, save in ridicule, to this mighty curative agent, that in its powers pretty well balances the whole Pharmacopœia—the mind? Does any practical medical man doubt these powers? Is he not aware of the ingredient faith, which, if added to his prescription, makes them often all powerful for good? Does he not practically know the value of strongly asserting that the medicine will produce such and such effects as a powerful means of securing them? Have not general practitioners often seen how much more efficacious the very same drugs have proved when prescribed in the physician's solemn consulting room than they were when connected with their own humbler environment and less august presence? If, then, this power is so well known, why, in the name of common sense, should it be pooh-poohed and ignored as it is? It has its laws of action, its limitations, its powers for good and for evil; would it not clearly help the medical student if these were indicated to him by his lawful teachers, instead of his gleaning them uncertainly from the undoubted successes of the large army of irregulars? There can be no doubt that, after all, a silent revolution is slowly taking place in the minds of medical men, and that our present textbooks on disease, content with merely prescribing endless selections and combinations of nauseous drugs, and dismissing any mental cure in a single line as unworthy of serious consideration, will soon be replaced by others containing views more worthy of the century at the close of which we live. For although these drugs are still administered, but few medical men now believe that they are the cause of the cure, for very gradually it is beginning to dawn upon us that most nervous diseases are easily and naturally treated by mental therapeutics, and that the still persistent efforts to cure them by the stomach are neither reliable nor rational. It ill becomes, therefore, the medical man, who recognizes in these cases that it is the mind that cures, to decry any form of faith cure, however little its process may be understood by him in detail. We have seen that the powers of the subconscious mind over the body are well-nigh immeasurable; and knowing, as we now do, that our old division into functional and organic diseases is merely the expression of our ignorance, and that all diseases, even hysterical, involve some organic disturbance, we are prepared to believe that faith cures, putting into operation such a powerful agent as the unconscious mind, or, if you prefer the formula, "the forces of Nature," are not necessarily limited to so-called functional diseases at all. Dr. Tuke's cure of warts by faith is well known, and, in spite of the imposture that has lately been exposed at Lourdes, there is great difficulty in believing that the cures effected there and elsewhere are limited to what we call functional diseases. It is perhaps the connection of mental therapeutics directly with faith-healing, Christian science-healing, and hypnotism, and indirectly with liquid electricities, billionth dilutions, and quack remedies of all sorts, that has so far deterred the profession from examining very closely its wonderful powers. This disgust is natural if we consider, for instance, one or two sentences from Mrs. Eddy's book on Chris-



*tian Science*. She says: "If the disease is consumption, begin your argument by taking up the leading point, showing that it is not inherited, and that inflammation, tubercles, hæmorrhage are but thoughts, beliefs, mental images before mortal minds, not the immortal mind. Drugs and cataplasms are shocking substitutes for the dignity and potency of mind." And again: "Ossification, or any abnormal condition of the bones, is the action of the mind as directly as insanity. Bones have no more substance than thoughts; what we call matter was primitively error in solution." Small wonder, in the face of such remarkable statements, if some turn with disgust from the whole subject. But we do maintain that it is largely our own fault if the science of mental therapeutics is thus parodied, for it includes no such vain metaphysical theories as we have quoted, nor any such surrender of will and personality as hypnotism requires, nor the revolting assumption of the miraculous that is seen in many faith-healing centres. On the contrary, the careful study of the subconscious mind and its connection with the body on one side and consciousness on the other delivers us both from unnecessary hypotheses and objectionable practices. When these laws have become the subject of serious study, and when the whole science is better understood and earnestly taught in the profession, the misuse and abuse of this great therapeutic agent by ignorant quacks will largely cease and the true curative agent of nearly all diseases will at last stand revealed.

**The Influence of the Testicles on the General Condition.**—In a valuable article entitled *The Question of Castration for Enlarged Prostate* (*Annals of Surgery*, September, 1896) Dr. A. T. Cabot, of Boston, says:

In December, 1894, I saw James W., a strong man of seventy-five years, who had been troubled for five years with considerable difficulty in connection with urination. At the time that I saw him the catheter was being used regularly, as he was unable to pass water without it. He was then suffering from an acute attack of inflammation. This subsided somewhat after rest in bed, but during his treatment the catheter touched a stone and an operation was decided upon.

On January 2, 1895, the stone was easily crushed and pumped out. The patient being in good condition at the end of this operation, the testes were removed. Previous to the operation the patient was for the most part clear mentally, but occasionally had slight confusion of ideas. He tore off the dressing after recovery from ether, and was in a distinctly bad mental condition the following day. From this time he continued in a mildly maniacal condition, which persisted through the month of January, and presented the typical form of confusional insanity, with occasional exacerbations when he was quite maniacal and noisy. For some days after the operation he had considerable pain and increased resistance over the right kidney.

During this time the wound in the scrotum healed kindly, and the prostate diminished considerably in size, making the passage of the catheter much easier than it had previously been. On February 14th he passed some water voluntarily. On February 19th he was as much confused as ever, his mind occupied with delusions and often much depressed, referring constantly in his talk to the loss of his testes and to his business troubles. It was now decided to try the effect of the injection of testiculin.

On February 28th, when he had been for eight days

receiving from thirty to forty minims daily, the record was made: "The injections are very painful and are hurting him much. His mental condition has changed decidedly since they were started. His friends, who do not know the character of the treatment, are much pleased with the change which they began to notice two days after the first injection. He is less restless, sleeps better, and worries less."

On March 6th we have the record: "For the past four days the testiculin has been omitted, and there is a decided change for the worse, his condition having become much as it was two weeks ago. March 16th, testiculin is being used every day. Mental condition constantly improving."

After this, the injections having been very painful, they were omitted, and the mental condition continued steadily to improve. He was able to use a silver catheter himself, and finally left the hospital March 30th.

I heard later from his physician, Dr. C. D. Sawin, of Charlestown, that Mr. W. did quite well, and went about with some degree of enjoyment and comfort. Some time toward the end of May, after a long ride in a carriage, he was again taken down with acute symptoms, with considerable pain referred both to the bladder and the region of the right kidney. This was accompanied by high fever and delirium; and he gradually failed and died.

Dr. Sawin was able to get a partial examination, and found the prostate about the size of a hen's egg. The third lobe was enlarged to the size of a pullet's egg, and projected upward and backward into the bladder. On its apex was a calcareous deposit firmly adherent. Posterior to this, extending forward in the body of the prostate, was a cavity with smooth walls, which contained about a teaspoonful of gravel. The bladder wall was thickened and injected, and showed on its surfaces a few hæmorrhagic spots. The kidneys were in a state of acute pyelonephritis, and the right was about one third larger than normal.

I know of no other instance in which testicular extracts have been used in such a case as this, but the immediate improvement which followed confirms the belief that the loss of the testicles had something to do with the mania, and suggests the importance of a further trial of these extracts in similar cases. Care was taken that neither the patient nor the friends should have any idea of what was being given or what results were expected, so that the possible effect of suggestion should be reduced to a minimum. This would seem to be a necessary precaution in any similar trial; for suggestion is a powerful therapeutic agent in such functional nervous disorders.

Besides these immediate and psychic disturbances there are other cases in which the operation has a very decided depressing effect on the general strength of the patient, leading to an amount of shock quite out of proportion to the extent of the mutilation.

In other cases, again, the patients have borne the operation well, the wounds have healed kindly, and still, at the end of a fortnight, or perhaps a little longer, they have gradually failed without any marked change in their symptoms and have died. If a case of this sort comes to autopsy, it usually reveals a condition of pyelonephritis, and the death is perhaps sufficiently explained thereby. It is, nevertheless, a striking and suggestive fact that these patients who have been carrying the load of partially disabled kidneys for a long time, after a slight operation, which heals kindly, gradually

succumb by progressive loss of strength without any evident increase of symptoms pointing to an aggravation of the renal condition.

This seems to indicate that, by the removal of the testes, the vital force of the patient has been in some way diminished, and thus, in a measure, the theory of Brown-Séquard finds support.

As a further evidence of the effect produced upon the nervous system by the removal of the testes, it has been noticed in a number of cases that the patients afterward suffer from uncomfortable flushes of heat, similar to those experienced by women at the time of the menopause. Also distinctly hysterical phenomena have been observed after castration. On the other hand, cases are reported in which conditions of nervous excitability existing before have been relieved by the operation.

**The Mississippi Valley Medical Association.**—The twenty-second annual meeting will be held in St. Paul, on September 15th, 16th, 17th, and 18th, under the presidency of Dr. H. O. Walker, of Detroit. Besides the president's address, the preliminary programme includes the following titles: An Address in Medicine, by Dr. Harold N. Moyer, of Chicago; An Address in Surgery, by Dr. Horace H. Grant, of Louisville; The Clinical Significance of the Child's Fontanelle, by Dr. I. A. Abt, of Chicago; Proprietary Prescriptions, by Dr. W. W. Allison, of Peoria, Illinois; A New Operation for Cleft Palate, by Dr. Truman W. Brophy, of Chicago; Some Rarer Forms of Keratitis, by Dr. Carl Barch, of St. Louis; The Results of Operation *per se* in Cases of Tubercle and Cancer, by Dr. A. C. Bernays, of St. Louis; Mastoid Diseases, their Medical and Surgical Treatment, by Dr. S. S. Bishop, of Chicago; Rupture of the Chorioid Coat, by Dr. J. H. Buckner, of Cincinnati; The Operative Treatment of Pterygium, by Dr. Eduard Boeckmann, of St. Paul; The Treatment of Some Inflammatory Diseases of the Gastro-intestinal Tract—Kola, by Dr. Gustavus Blech, of Detroit; A Report of a Case Illustrating the Value of Secondary Physical Signs in the Diagnosis of Cardiac Diseases, by Dr. R. H. Babcock, of Chicago; Rhinoscopic Examinations in General Practice, by Dr. E. M. Behrens, of Minneapolis; Irregularities in Delivery due to Short Umbilical Cord, by Dr. Guido Bell, of Indianapolis; Gastro-jejunostomy in Gastrectasis, by Dr. A. H. Cordier, of Kansas City; The Conventional Treatment of Heart Diseases *versus* Positive Treatment, by Dr. Ephraim Cutter, of New York; Tonsillotomy by Means of the Cautey Blade, by Dr. J. Homer Coulter, of Chicago; The Newer Remedies in Otology, and their Results, by Dr. G. I. Cullen, of Cincinnati; Infant Feeding—The Antidyscrasic Action of Cow's Milk, by Dr. M. F. Cupp, of Edinburgh, Indiana; Ether and Chloroform; their Comparative Merits as Agents for the Production of General Anæsthesia, by Dr. W. S. Caldwell, of Freeport, Illinois; Appendicitis; to Operate or not to Operate, by Dr. J. H. Dunn, of Minneapolis; Syphilis as an Ætiological Factor in the Production of Tabes Dorsalis, by Dr. C. Travis Drennan, of Hot Springs, Arkansas; Preventive Medicine, by Dr. J. O. DeCoursey, of Libory, Illinois; Certain Misconceptions regarding Cardiac Murmurs and their Significance, by Dr. Arthur R. Edwards, of Chicago; A New Method of Fastening the Broad Ligament in Alexander's Operation, by Dr. J. Frank, of Chicago; Cholecystotomy in America, with a Report of Four Cases, by Dr. Alex Hugh Ferguson, of Chicago; Pleuritic Effusions and their Treatment, by Dr. G. Futterer,

of Chicago; Rational Operations for the Cure of Retroversions and Flexions, by Dr. A. Goldspohn, of Chicago; A Demonstration of the Therapeutic Action of Antitoxines, by Dr. E. M. Houghton, of Detroit; Stipiculture, by Dr. Florence W. Hayes, of Terre Haute, Indiana; On the Importance of Physical Signs other than Murmur in the Diagnosis of Valvular Diseases of the Heart, by Dr. James B. Herrick, of Chicago; The Neural Factor in Clinical Medicine, by Dr. C. H. Hughes, of St. Louis; The Value of Medicinal Antipyretics in View of Newly Acquired Knowledge respecting the Nature of Acute Infectious Diseases, by Dr. Talbot Jones, of St. Paul; The Treatment of Syphilis, by Dr. J. T. Jelks, of Hot Springs, Arkansas; The Physiological Treatment of Typhoid Fever, by Dr. Elmer Lee, of Chicago; The Pathology and Treatment of Suppurative Salpingitis, by Dr. F. F. Lawrence, of Columbus, Ohio; The Lumbar Enlargement of the Spinal Cord, by Dr. L. Harrison Mettler, of Chicago; The Indications for and Demonstrations of Removal of the Gasserian Ganglion, by Dr. J. B. Murphy, of Chicago; The Surgical Treatment of Pyloric Obstruction, by Dr. William J. Mayo, of Rochester, Minnesota; Conditions which may Simulate Organic Obstruction of the Rectum, by Dr. Thomas H. Manley, of New York; Multiple Operations in Pelvic Disease, by Dr. H. P. Newman, of Chicago; Nerve Sutures and Other Operations for Injuries to the Nerves of the Upper Extremities, by Dr. A. J. Ochsner, of Chicago; Submucous Linear Cauterization; a New Method for the Reduction of Hypertrophies of the Conchæ, by Dr. N. H. Pierce, of Chicago; The Treatment of Experimental Tuberculosis in Animals by the Use of Blood Serum, by Dr. Paul Paquin, of St. Louis; The Pathology of Idiocy, by Dr. Frederick Peterson, of New York; Chorea, by Dr. Curran Pope, of Louisville; Electro-diagnosis and Electro-therapeutics Simplified—Trunk Anæsthesia in Locomotor Ataxia, by Dr. Hugh T. Patrick, of Chicago; The Use of Oxygen in Chloroform Narcosis, by Dr. C. B. Parker, of Cleveland; My Favorable Experience with Diphtheria Antitoxine, by Dr. D. C. Ramsey, of Mount Vernon, Indiana; The Physiology of the Peritonæum, from Experiments, by Dr. Byron Robinson, of Chicago; Some Fads and Fallacies of Modern Rectal Surgery, by Dr. Leon Straus, of St. Louis; Pregnancy Complicating Operations on the Uterus and its Appendages, with a Report of Cases, by Dr. R. Stansbury Sutton, of Pittsburgh; The Significance and Occurrence of Capillary Pulsation in Nervous Diseases, by Dr. A. E. Sterne, of Indianapolis; Twenty-seven Cases of Croup, by Dr. E. W. Sanders, of St. Louis; The Necessity of Vivisection, by Dr. E. B. Smith, of Detroit; Gunshot Wound of the Liver; A Report of a Case involving Diaphragm and Lung; Operation Successful, but Fatal Termination Two Weeks Later from Pneumothorax, by Dr. J. H. Taulbee, of Mt. Sterling, Kentucky; A Further Report on the Treatment of Five Hundred Cases of Gastritis, by Dr. Fenton B. Turck, of Chicago; The Rapid Cure of Gonorrhœa, by Dr. Ferd. C. Valentine, of New York; Some Unusual Cases of Appendicitis, by Dr. Weller Van Hook, of Chicago; Mastoidectomy in Caries of the Temporal Bone, by Dr. K. K. Wheelock, of Fort Wayne, Indiana; A Further Contribution on the Use of Dry Heat in the Treatment of Chronic Joint Affections, by Dr. W. E. Wirt, of Cleveland; A Further Contribution to the Ocular Treatment of Epilepsy, by Dr. Casey A. Wood, of Chicago; and the Decadence of the General Practitioner and the Reign of the Specialist, by Dr. D. S. Maddox, of Marion,



Ohio. Other papers will be read by Dr. H. O. Pantzer, of Indianapolis, Dr. A. H. Meisenbach, Dr. I. N. Love, and Dr. Bransford Lewis, of St. Louis, Dr. R. C. Hefebower, of Cincinnati, Dr. Henry Hatch, of Quincy, Illinois, and Dr. Augustin H. Goelet, of New York.

**A Surplus of Nurses in California.**—Although this journal is not "devoted to the profession of nursing," we cheerfully print the following:

At a regular meeting of the San Diego Medical Society, held on August 7, 1896, a committee appointed to investigate the grievances of trained nurses coming to San Diego under promise of remuneration submitted the following preamble and resolutions, which upon the call of yeas and nays were unanimously adopted, viz.:

*Whereas*, A number of trained nurses from the training schools of Philadelphia and Baltimore have been induced to come to San Diego on the representation that they could find employment here that would pay them from twenty to twenty-five dollars a week; and

*Whereas*, on coming here they have not found such work or such wages, but have been obliged in some cases to procure money from their friends or relatives in the East so as to enable them to return home, therefore be it

*Resolved*, That we state for the information of such who may hereafter be likely to fall victims to such misrepresentation that the profession of nursing is now greatly overstocked and that at no time has any demand or have such opportunities existed for trained nurses as represented, and be it further

*Resolved*, That to prevent such nurses from being imposed upon we advise nurses to make specific arrangements with responsible persons before coming.

*Resolved*, That a copy of these resolutions be sent to Eastern periodicals devoted to the profession of nursing.

**The American Academy of Railway Surgeons.**—The third annual meeting will be held in Chicago, on September 23d, 24th, and 25th, under the presidency of Dr. John E. Owens, of Chicago. Besides the president's address, the programme includes the following papers: The Diseases of Railway Men caused by their Occupation, by Dr. J. F. Pritchard, of Manitowoc, Wisconsin; The Personal Equation among Trainmen, by Dr. Robert Tilley, of Chicago; Penetrating Wounds of the Eyeball, by Dr. G. A. Wall, of Topeka; Penetrating Wounds of the Eyeball, by Dr. T. J. Redelings, of Marinette, Wisconsin; Penetrating Wounds of the Eyeball, with Special Reference to Differential Diagnosis, by Dr. D. C. Bryant, of Omaha; The Remote Effects of Bone Trauma, by Dr. D. S. Fairchild, of Clinton, Iowa; The Medico-legal Aspects of Floating Kidney, by Dr. R. Harvey Reed, of Columbus, Ohio; Railway Surgery, by Dr. Jessie Hawes, of Greeley, Colorado; Emergency Surgical Practice, by Dr. C. K. Cole, of Helena, Montana; First Aid in Railway Emergencies, by Dr. James E. Pilcher, of Columbus, Ohio; Experimental Research into Shock in Abdominal Operations and Injuries, by Dr. George W. Crile, of Cleveland; Shock and Collapse, with Special Reference to Amputations, by Dr. Webb J. Kelly, of Galion, Ohio; The Delirium of Shock, by Dr. R. S. Harnden, of Waverly, N. Y.; Injuries of the Hands and Fingers, by Dr. John McLean, of Pullman, Illinois; An Experimental Study of Colles's and Pott's Fractures on the Cadaver, by Dr. A. D. Bevan, of Chicago; The Cause and Mechanical Treatment of Subluxation of the Knee Joint, by Dr. S. L. McCurdy, of Pittsburgh; Compound Comminuted Fractures at the Knee, with a Re-

port of a Case, by Dr. W. A. Ward, of Conneaut, Ohio; The Relation of Tuberculosis of the Knee to Injuries of the Knee Joint, by Dr. H. Reineking, of Sheboygan, Wisconsin; Fractures of the Femur, by Dr. E. M. Dooley, of Buffalo; Past and Present Obstacles to the Radical Cure of Hernia, by Dr. E. Wyllys Andrews, of Chicago; and The Treatment of Tramps and Trespassers, by Dr. H. J. Williams, of Macon, Georgia.

**The American Association of Obstetricians and Gynecologists.**—The ninth annual meeting will be held in Richmond, Virginia, on September 22d, 23d, and 24th, under the presidency of Dr. Joseph Price, of Philadelphia. The preliminary programme includes the following titles: The president's address—Principles and Progress in Gynecology; Vaginal Hysterectomy by the Clamp Method, by Dr. Sherwood Dunn, of Los Angeles, California; Further Experience with Appendicitis, by Dr. A. Vander Veer, of Albany; The Relation of Malignant Disease of the Annexa to Primary Invasion of the Uterus, by Dr. A. P. Clarke, of Cambridge, Massachusetts; The Treatment of Puerperal Septicæmia, by Dr. H. W. Longyear, of Detroit; The Treatment of Posterior Presentation of the Vertex, by Dr. E. P. Bernady, of Philadelphia; The Relation of Local Visceral Disorders to the Delusions and the Hallucinations of the Insane, by Dr. W. P. Manton, of Detroit; The Differential Diagnosis of Hemorrhage, Shock, and Sepsis, by Dr. Eugene Boise, of Grand Rapids, Michigan; Movable Kidney: Local and Remote Results, by Dr. A. H. Cordier, of Kansas City; The Pathology and Indications for Active Surgical Treatment in Contusions of the Abdomen, by Dr. W. G. Macdonald, of Albany; Some Cases of Insanity in Women, by Dr. George H. Rohé, of Baltimore; Shall Hysterectomy be performed in Inflammatory Diseases of the Appendages? by Dr. L. H. Dunning, of Indianapolis; Dynamic Ileus, with a Report of Cases, by Dr. J. W. Long, of Richmond, Virginia; The Faradaic Treatment of Uterine Inertia and Subinvolution, by Dr. Charles Stover, of Amsterdam, N. Y.; A Plea for Absorbable Ligatures, by Dr. H. E. Hayd, of Buffalo; The Treatment of the Stump, by Dr. J. F. Baldwin, of Columbus, Ohio; Limitations in the Teaching of Obstetrics and Gynecology as Determined by State Medical Examining Boards, by Dr. William Warren Potter, of Buffalo; The Philosophy of Drainage, the Treatment of the Pedicle in Hysterectomy or Hystero-myomectomy in the Abdominal Method, by Dr. George F. Hulbert, of St. Louis; The Removal of the Uterine Appendages for Epilepsy and Insanity, a Plea for its more General Adoption, by Dr. D. Tod Gilliam, of Columbus, Ohio; The Albuminuria of Pregnancy, by Dr. A. E. Eklund, of Stockholm, Sweden; Unnecessary and Unnatural Fixation of the Uterus, and its Results, by Dr. James F. W. Ross, of Toronto, Canada; Sarcoma of the Urethra, by Dr. Charles A. L. Reed, of Cincinnati; Appendicitis as a Complication in Suppurative Inflammation of the Uterine Appendages, by Dr. L. S. McMurry, of Louisville; Gunshot Wounds of the Abdomen with the New Gun, by Dr. J. D. Griffiths, of Kansas City; Tubo-ovarian Cysts, with a Report of Interesting Cases, by Dr. A. Goldspohn, of Chicago; Obstruction of the Bowels following Abdominal Section, by Dr. George S. Peck, of Youngstown, Ohio; and a Memorial of Dr. Hiram Corson, by Dr. Traill Green, of Easton, Pennsylvania. Other papers will be read by Dr. John M. Duff, of Pittsburgh, Dr. Rufus B. Hall, of Cincinnati, Dr. George Ben Johnston, of Richmond, Dr. Walter B. Chase, of Brooklyn, Mr. Lawson Tait, of Birmingham,



England, Dr. Walter B. Dorsett, of St. Louis, Dr. W. E. B. Davis, of Birmingham, Alabama, and Dr. E. Arnold Praeger, of Los Angeles, California.

**Acrocyanosis.**—According to M. Crocq, says a writer in the *Journal des praticiens* for August 22d, this clinical syndrome begins imperceptibly. The patient notices that his hands and feet are becoming of a violet color, which grows lighter toward the wrists and the dorsal surface of the feet. The palmar and plantar surfaces are not so blue, but rather reddish in tint. The backs of the hands and of the feet are cold and dry, while their palmar and plantar surfaces are covered with a profuse perspiration. Pressure causes a white spot which disappears slowly. Slight shooting pains are felt in the extremities.

M. Crocq has observed two cases of acrocyanosis in hysterical subjects. He distinguishes this affection from Raynaud's disease and from Charcot's blue edema, as the acrocyanosis is permanent. It gives rise to slight pains, it is not ordinarily accompanied by local syncope, it does not cause the appearance of blisters or gangrene, and it does not abolish sensibility. There is no edema, paralysis, paresis, or contraction. M. Crocq seems to think that acrocyanosis is an hysterical vasomotor symptom.

**Two Curious Cases of Lightningstroke.**—The *Deutsche Medizinische-Zeitung* for August 20th gives an abstract of an account of these cases, by Dr. Koepelli, published in the *Korrespondenzblatt für schweizer Aerzte*, 1896, No. 6. On the 6th of June, 1895, two boys, aged respectively ten and sixteen years, took refuge in a shed to escape an impending shower. A stroke of lightning set fire to the shed and killed a dog that was with the boys. The people of the place hastened to the boys' aid, and found the younger one lying on his face writhing with pain; the other boy was stretched on his back apparently lifeless, but he revived to some extent on being carried into the house. In an hour after the accident Dr. Koepelli found both boys fully conscious and complaining of great pain. The younger boy's skin was partly reddened and partly covered with blebs over the left arm, the left leg, the left side of the body, the whole of the back, the left cheek, and the left ear. Above and below the left costal arch there was a patch fifteen centimetres long and ten centimetres wide which was of a deep blackish-gray color and felt hard and leathery. In the older boy the injuries were found more on the right side, and consisted of a great number of deep punctiform lesions of the skin looking as if numerous shot had been removed. Both boys were in good general condition; there was no paralysis and the organs of special sense were intact. There were, therefore, no electrical nerve disturbances, there was only scorching; nevertheless, the prognosis seemed unfavorable, especially in the case of the younger boy, full two thirds of whose skin had been burned.

The treatment was by rest in bed, light liquid food, and warm-water applications. In the case of the older boy recovery was uninterrupted, and he was able to be out of bed by the fourteenth day. On the third day the younger boy had an attack of profound collapse, for which alcohol in unlimited amounts was ordered, together with a continuance of the warm applications. During the night the boy consumed a bottle of Malaga wine, and on the next day he was found distinctly better. The burned spots were severely painful. Gauze spread thick with vaseline was applied to them, over

that there were laid six or eight thicknesses of compress moistened with a one-per-cent. solution of salicylic acid, a protective covered them, and a broad bandage was put on over all. The dressing was renewed once or twice a day.

In fifteen days after the accident the necrotic skin of the large burned area on the left side could be removed *en masse*; the cutis together with the subcutaneous cellular tissue had been destroyed. The ulcer remaining was twenty centimetres broad and twenty-four centimetres long. It was cleansed daily with a one-per-cent. solution of corrosive sublimate and dressed with an ointment of zinc oxide covered with moist salicylic-acid wadding. After a few weeks skin-transplantation from a calf was resorted to to hasten the healing, and it was ten weeks from the time of the injury when recovery was complete.

**Ovarine and Ovarian Juice in the Treatment of Chlorosis.**—The *Presse médicale* for August 15th publishes a report of a recent meeting of the Congrès française de médecine interne at which M. Spillmann and M. Etienne presented a paper on this subject. They thought that the morbid symptoms which often preceded menstruation might be considered as the result of an intoxication which disappeared after this function was established. The frequency of menstrual troubles was well known.

If chlorosis, they said, was a disease of the ovaries, their functions were changed or abolished, and with the suppression of menstruation chlorosis appeared. And, on the other hand, a defective general condition interfered with and impeded recovery of the ovarian gland.

If, however, the ovarian internal secretion was restored to the organism in any way, it was possible, perhaps, to stop the intoxication, to influence the organism in general, and to afford a means of recovery of the local ovarian affection.

The authors had made use of three products: The fresh ovaries of the sheep, dried ovarian substance, and ovarian juice prepared by the Brown-Séquard-d'Arsonval method. These remedies had been given to six chlorotic subjects, with the results that after the first dose very sharp pains, especially in the abdominal region, had been felt; there had also been headache and vague muscular pains. In two of the patients the temperature had risen to 99.1° and 100.2° F., and the pulse increased from 76 to 100. In three of the patients the remote results had been distinctly favorable; the general condition had been rapidly improved, the pallor diminished, the number of white globules increased, and the strength restored. Menstruation, which had been suppressed for over three months, had returned in one case in fifteen days after the beginning of the treatment; in another case it had returned at the end of three months.

The authors concluded that, in the treatment of chlorosis, ovarine favored the elimination of the toxins, and introduced into the organism an antitoxic principle, and in this way it exerted a favorable action on the general condition, on the increase in the number of red globules, and on menstruation.

**A Compound of Argon and Water.**—M. Villar lately reported to the Académie des sciences (*Indépendance médicale*, August 19, 1896) that he had found that under certain experimental conditions difficult to maintain argon would form with water a definite compound, a crystallized hydrate.

## Original Communications.

PRIMARY AND SECONDARY  
PHARYNGEAL TUBERCULOSIS  
FROM A CLINICAL STANDPOINT.\*By WALTER F. CHAPPELL, M. D., M. R. C. S. ENG.,  
SURGEON TO THE MANHATTAN EYE, EAR, AND THROAT HOSPITAL.

It is not my intention this evening to discuss the ætiology or pathology of the subject of this paper, but simply to present some clinical facts as they have appeared to me.

For some years past various observers have stated the belief that pharyngeal tuberculosis was occasionally primary. Isambert, in 1875, described different forms of this affection, some of which he thought must be primary. Fränkel, a year later, said that although unable to prove it he certainly believed that one of his cases was primary. Within the past three years, Dieulafoy, Lermoyez, and others have published the results of their investigations and expressed the opinion that, under certain conditions, a tuberculous manifestation resembling in appearance adenoid tissue may occur in the naso-pharynx and pharynx. This has been my experience, and I have the pleasure of presenting to this meeting the history of a patient, which, I think, proves definitely the possibility of a primary tubercular infection through the pharynx and nasopharynx.

I also present the history of two cases of secondary pharyngeal tuberculosis.

The water colors which I will pass around, and the clinical facts of the cases, show clearly the difference between a primary and a secondary infection.

CASE I.—J. W., a man, aged twenty-four years; came under my care in April, 1895, suffering from acute laryngeal tuberculosis in an advanced stage, and extensive pulmonary involvement. The disease progressed rapidly, and early in June the right posterior pharyngeal pillar began to thicken at its lower part, and the infiltration gradually increased until the soft palate, uvula, and left post-pharyngeal pillar were involved. The invasion of the soft palate proceeded from the right side. On the tenth day from the first apparent invasion of the pharynx numerous yellow spots appeared on the right post-pharyngeal pillar; and on the twelfth day the pharynx presented the appearance shown in Fig. 1. The mucous membrane had previously presented a pearly gray, tense appearance, but within forty-eight hours its yellow spots resembled those seen in a case of follicular amygdalitis. At first the spots had a thin covering of epithelium, but in a few hours this broke down and bright yellow, curdy secretions dotted the surface. These were readily brushed off, leaving extremely small openings plugged with the same curdy-looking secretion. The uvula had been very oedematous prior to the appearance of the yellow spots, but as soon as

they began to discharge the swelling subsided and gave the mucous membrane a wrinkled appearance. The minute spots of ulceration soon coalesced and poured out quantities of thick, tenacious secretion.



FIG. 1.—Secondary pharyngeal tuberculosis.

The disease then followed the usual course of acute cases, making deep, irregular excavations in the soft palate.

The patient died late in July, surviving about six weeks after the pharynx was attacked.

CASE II.—M. H., aged twenty-five years; came under my observation in June, 1895. He had a large tuberculous ulcer, extending from near the anterior commissure of the larynx upward over the left side of the cushion of the epiglottis, with considerable superficial infiltration of the arytenoid cartilages and epiglottis. He remained under treatment for about four months, and although placed under the most favorable climatic and hygienic surroundings, and receiving every approved method of treatment for this affection, nothing seemed to arrest the progress of the disease.

Four weeks before his death the lower part of the right lateral pharyngeal fold began to enlarge slowly and assumed a shiny appearance. This condition gradually spread upward behind the posterior pillar until the infiltration presented a smooth, tense, ridgelike appearance. The right posterior pillar then began to thicken, similarly to the lateral fold, and the infiltration spread to the soft palate, and eventually to the uvula. By this time small yellow spots appeared over the seat of the first infiltration. These gradually spread upward on the lateral fold and posterior pharyngeal pillar, and subsequently broke down, forming small disseminated ulcers, which coalesced and followed a course similar to that described in Case I.

The left posterior pillar did not become infected, all of the infiltration having been on the right side.

Death occurred within five months of my first seeing him.

CASE III.—Maggie A., aged nineteen years; came to my clinic at the hospital early in September, 1895, complaining of considerable post-nasal discharge, stoppage of the nose, and discharge from the right ear. An examination showed some acute swelling of the pharyngeal tonsil, with more or less mucous discharge. The pharynx, soft palate, uvula, and tonsils appeared healthy. Soothing applications were prescribed, and a few days later the post-nasal discharge had greatly diminished.

At several sittings, extending over a period of ten

\* Read before the Section in Laryngology of the New York Academy of Medicine, April 22, 1896.



days, the adenoid tissue in the pharynx was removed with forceps under ordinary antiseptic precautions.

About a week after the last tissue was removed the patient returned to the hospital complaining of having chills and some pain behind the palate. She looked ill and was of an ashy-gray appearance.

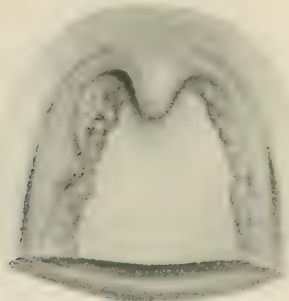


FIG. 2.—Primary pharyngeal tuberculosis.

A post-rhinoscopic examination revealed the mucous membrane in a semi-inflamed condition, irregular and puffy in appearance, and somewhat resembling adenoid growths. Several of these masses were removed, and were so firm and hard that it caused considerable comment. The patient felt relieved after this operation, and did not appear again for three weeks, when she returned, having considerable swelling of the cervical glands of two days' duration. The enlarged glands were very painful and tender on pressure, especially on the right side. The lateral folds of the pharynx, especially the right side, were enlarged, and appeared as thick, nodular ridges of about the size of an ordinary lead pencil, and passed upward behind the soft palate, and joined a number of similar nodular-looking masses in the nasopharynx.

The lateral pharyngeal folds are shown in Plate II, and resemble an accumulation of large granules or irregular masses, tender and hard to the touch, and of a deep bluish color. The same condition and appearance existed in the nasopharynx. The uvula at this time looked healthy, but the mucous membrane of the pharynx had a bluish appearance, though not infiltrated.

The patient looked and felt ill, and had a temperature of 101° F. A careful examination of the lungs revealed nothing of importance, and there were no other symptoms pointing to any pulmonary involvement. An unusual condition was recognized, and after considerable questioning tubercular infection was diagnosed.

The questions brought out the following history:

The patient had always enjoyed good health until the present illness. For some months prior to her first visit to the hospital she had been the sole attendant on a sister suffering from a somewhat acute form of pulmonary tuberculosis. She had taken no care to prevent herself from becoming infected, and when her sister died, in July, 1895, the patient moved into the bedroom occupied by her sister, and used the same bed clothing and other things belonging to her sister, without disinfecting them.

Examination of mucus from pharynx and nasopharynx showed it to contain tubercle bacilli. Several pieces of tissue were cut from the right lateral pharyngeal fold,

and also from the nasopharynx, and submitted to Dr. Jonathan Wright, the pathologist of the hospital, for examination.

I am indebted to Dr. Wright for his careful examination and interest in the case. He has supplied the slide I am able to show you, and the following report:

DR. WRIGHT'S REPORT.—The specimen received from Dr. Chappell was a piece of tissue about ten millimetres in its long diameter and five millimetres in its short.

Half of this was sent to Dr. W. H. Park, who inoculated two guinea-pigs with it. Dr. Park reports that one of the guinea-pigs died in twenty-one days of septicaemia, and showed, in addition to this, typical tubercle in the spleen and other organs, the tubercles containing bacilli.

Four months later, the second guinea pig, which had presented signs of disease, was killed, and found to be suffering from disseminated tuberculosis.

The other half of the specimen was put in absolute alcohol, then in alcohol and ether, and imbedded in celloidin. Sections examined under a low power show a lymphoid tissue crowded with tubercle, presenting the picture shown in the drawing (Plate III).

Examined with higher power, the characteristic structure of tubercle, with many giant cells, may be seen, the areas of coagulation necrosis being shown as light spots in the drawing.

Sections were stained for tubercle bacilli. A few were found in two or three sections out of about forty examined.

The bacilli were never more than one to a tubercle granulum, situated usually in the centre of it, and sometimes in a giant cell.

DIAGNOSIS.—Miliary tubercle of lymphoid tissue.

The subsequent history of the case proves the correctness of this diagnosis.

Injections of creosote and lactic acid, also curetting, were thoroughly employed, with little benefit to the right side, but the left pharyngeal fold was considerably improved. Most of the fringed processes on the latter side disappeared, and the cervical glands diminished considerably.

During the latter part of January the right tonsil and the right pillars of the fauces thickened, grew oedematous, and assumed a light blue color. This condition spread upward to the soft palate and downward to the right side of the tongue. A small papillary-looking mass also appeared about this time in the interarytenoid space.

Almost daily examinations of the lungs had been made, by myself and others, from the time the infection of the pharynx was recognized. It was not until over four months from this date that any pulmonary lesion was discovered. This was first noticed in the right apex, and three days later in the left apex.

As soon as the disease invaded the lung tissue the case became one of acute pharyngeal, laryngeal, and pulmonary tuberculosis. The soft palate and pillars on the right, which had previously been simply thickened and somewhat swollen, became very tense and of a deeper blue color. On the right anterior pillar, small, curdy-looking secretions appeared and spread on to the tonsil, and subsequently extremely small, shallow ulcers developed, much different in appearance, however, from those in the two cases I have just reported. The mucous glands on the posterior third of the tongue enlarged enormously, and hung over the epiglottis. These masses were



round, of a grayish-blue color, and resembled clusters of polypoid tissue.

The two specimens I pass around were taken from this region.

Lastly, the arytaenoid cartilages and the mucous glands in the posterior commissure became puffy, making respiration quite difficult. At no time were the ventricular bands, vocal cords, or any other parts of the larynx implicated.

The final stage was reached about the middle of March, when all the infiltrated tissue began to break down into small, superficial ulcers, as already described. The pulmonary disease had also progressed with remarkable activity, and the patient succumbed during the last week of March.

From her past history, M. A. evidently had some post-nasal catarrh for several years, with some enlargement of the pharyngeal tonsil. Although the removal of the latter was done with every antiseptic precaution, there was an early recurrence of tissue, which, from microscopic examination and clinical history, was undoubtedly tubercular in character. A number of tubercle bacilli were discovered in mucus taken from various parts of the nasal fossæ when the diagnosis was made, and undoubtedly they were inhaled while she was nursing her sister or occupying the room in which she had died.

The possibility that no infection would have occurred if the operation had not been done, is very interesting. The first appearance of an infection in the nasopharynx, and the subsequent descent along the lateral pharyngeal folds to the root of the tongue, and later into the larynx and lungs, point conclusively to the initial seat of the primary infection. The later invasion of the soft palate and uvula resembled in appearance and history cases of secondary pharyngeal infections.

The water colors and clinical histories of these cases show differences between a primary and a secondary infection. In the former there is a proliferation of tissue at the seat of invasion, and evidence of an inflammatory process, with considerable stasis in the local circulation. At no subsequent period did this tissue break down or go through the process of ulceration observed in other infiltrations which were secondary in character.

In all the secondary cases seen by me, the infection was in the form of a general infiltration of the mucous membrane, which soon progressed to ulceration and destruction of all infected tissue.

In the primary case the local evidences of an infection of the pharynx and nasopharynx preceded the sympathetic swelling of the cervical glands by about four days, thus following the rule of other primary infections, such as syphilis and cancer, in which we have an early implication of the glands in the neighborhood of the infection.

Furthermore, the cervical glands in the primary case swelled quickly, had considerable inflammation and infiltration, and were very painful and tender, all pointing to an acute infection from a part in the immediate neighborhood.

In my own secondary cases, and also in some others observed by me, the cervical glands were enlarged some time before any pharyngeal invasions. In one case this

was very noticeable. The deep cervical glands from the clavicle to the angle of the jaw on the right side gradually enlarged from below upward, and subsequently a few on the left side became affected. They were never very tender, nor did they show evidence of an acute infection; but eventually a pharyngeal deposit of tubercle appeared.

In studying the histories of reported cases of pharyngeal tuberculosis, several observers mention the presence of a fringe of small excrescences extending along the posterior pillars of the pharynx and into the nasopharynx. This condition corresponds so closely with the writer's primary case that it seems very presumable that they also were primary.

Another interesting clinical fact in both forms of the disease is, that the right side of the pharynx usually is the first to show the tuberculous invasion.

In all of my secondary cases the infiltration began first in the right pharyngeal fold, passed on to the right posterior pillar, and thence to the right side of the soft palate.

In my primary case the infection was much more severe on the right side, and spread up the right side of the pharynx to the soft palate and reached the tongue and larynx, seemingly, entirely through the right side.

Furthermore, in nearly every case reported fully by other writers, mention is made of the right side of the pharynx being more severely infected than the left. This is undoubtedly due to the difference in the arrangement and distribution of the lymphatics on the right from those on the left side of the neck.

## THE SEQUELÆ OF SYPHILIS AND THEIR TREATMENT. NASAL SEQUELÆ.\*

By CHARLES H. KNIGHT, M.D.

THE topic for discussion which has been assigned to me is the sequelæ or late manifestations of syphilis as met with in the nasal passages. My paper will therefore not enter upon the question of primary infection in this region or consider the possibility of so-called secondary lesions developing upon the Schneiderian membrane. Medical literature contains the record of many cases of chancre of the nose, and at the present day we believe that the mucous patch may appear on the nasal mucosa, although its occurrence here is very rare and has been denied. Late syphilis of the nose may simulate almost any other lesion, simple or malignant; its development is extremely insidious, and its ravages may be very extensive. For these reasons the study of specific phenomena, as exhibited in the nasal chambers, is peculiarly interesting, and their early recognition is of the utmost importance. To illustrate, let me briefly re-

\* Read before the American Laryngological Association at its eighteenth annual congress.

cite to you a personal experience, by no means a rare one—and doubtless each of you could furnish a counterpart from his own observation—but to me it was full of instruction and warning:

In the year 1890 a girl of fifteen was brought to the Manhattan Eye, Ear, and Throat Hospital for epiphora from stenosis of the nasal duct. The duct was found to be obstructed at its nasal orifice by an enormous enlargement of the right inferior turbinate body, which completely blocked up the nostril and was adherent to the septum. The mass, supposed to be a simple hyperplasia, was removed with the cold-wire snare. In two weeks it had resumed its original proportions, but was much more sensitive and vascular. Malignancy was suspected, but the microscope discovered nothing except hypertrophy of the lymphoid elements in the mucous membrane, which resembled, in all respects, lymphoid tissue as met with in the nasopharynx. Again it recurred after removal, and in about three weeks the microscopic report became quite different. Now the case was put down as one of small round-celled sarcoma. All the characteristics of sarcomatous tissue were clearly defined. The patient was referred to a general surgeon, who advised excision of the upper jaw. Ten days later the girl came to the clinic complaining of a sensitive swelling on her left shin, and over the crest of the tibia was found a semi-fluctuating tumor of the size of a hen's egg. She was at once put upon mercury and rapidly increasing doses of iodide of potassium. Within two weeks this node, and at the same time the nasal tumor, disappeared, and there has been no sign of either since. She was kept under treatment several months and has been seen at the clinic within a year. There can be no doubt, therefore, that the nasal tumor was a gummatous infiltration, yet the case narrowly escaped going on record as one of sarcoma brought by excision of the upper jaw. At the outset the patient, as well as her relatives, was closely questioned as to the possibility of specific taint. Her history, her social position, and her appearance were above suspicion. The ultimate result must be considered more fortunate than it is in many similar cases, no damage being done beyond complete absorption of the inferior turbinate body.

The foregoing is a fair example of the course and results of a syphilitic process limited to the soft parts, and of the difficulty in reaching a diagnosis. We meet with a still more serious array of symptoms and much more formidable consequences when the septal cartilage is attacked or the bony framework of the nose is involved. In the former case a patient presents himself with a symmetrical swelling of the partition between the nostrils well forward, usually pale in color, and insensitive, as compared with a perichondritis from traumatism. The surface is frequently irregular, eroded, or even ulcerated, and bleeds readily on irritation. The amount of discomfort attending the condition depends almost exclusively upon the degree of nasal stenosis and not upon the acuteness or intensity of the process itself. The result in such a case is almost inevitable—namely, perforation limited only by the extent of the primary infiltration. In some cases such an accident may be prevented by vigorous treatment, but they are rare, and probably include only those seen early and those in which the

gummatous perichondritis is rather circumscribed. It by no means follows that all cases of perforation of the cartilaginous septum should be regarded as syphilitic. On the contrary, a large percentage of them are traumatic; in other words, they are induced by the habit of picking the nose for the purpose of dislodging a mass of inspissated secretion, which is apt to accumulate at the apex of a septal spur or over an area of atrophied mucous membrane. Such perforations are often found in individuals who are entirely ignorant of their existence, and from whom a syphilitic element may be positively excluded. It may be said of syphilitic perforations that they tend to ulcerate at their margins and gradually invade the columna, the tip, and alæ of the nose, or progress backward and involve the bony septum. In this way a large part of the skeleton of the nose may be destroyed, but if the ulcerative process be confined to the cartilage and do not creep to the margin of the nostril, little or no external deformity may result. I have in mind a case in which the cartilage and the columna were lost, and yet no disfigurement followed except a slight flattening of the tip of the nose, the loss of the columna being noticeable only when the head was thrown backward. The most effective method of arresting these ulcerations is by daily applications of chromic acid or nitrate of silver, in solution of twenty grains to the ounce and upward, according to the extent and activity of the process. The formation of hard crusts, which are a source of irritation as well as of fœtor, may be prevented by the frequent use of a spray of abolone containing ten drops of eucalyptol to the ounce. Of course, suitable constitutional treatment must not be neglected.

In a certain proportion of cases the disease seems to be primarily located, not in the soft tissues, but in the cartilage or bone itself, and by the time the patient applies for relief the process of destruction has been practically completed. Almost all the bones which compose the walls of the nasal fossæ may be attacked by a necrotic process due to syphilis. A hideous degree of deformity may result from loss of the bony supports of the external nose and from distortion caused by cicatricial contraction. In dealing with cases of this kind we have to decide first when and how to remove necrosed bone, and finally how to remedy the resulting deformity. As to the time of interference, it may be said that it is not always good policy to wait until the sequestra have become completely detached. The process of spontaneous separation is notably slow in syphilitic necrosis, and should be expedited, when feasible, by surgical means, shortly after the active symptoms have been controlled by treatment. It is, of course, very desirable to preserve as much tissue as possible, hence the importance of having the patient fully under the influence of specific remedies for a considerable time before resorting to surgical interference. Otherwise, tissues which should be saved may be injured or destroyed. Not infrequently the diseased bone disintegrates and is expelled in the act of

blowing the nose. At times fragments may be found lying free in the nasal fossa, whence they may be extracted through the anterior nares; or if their size or irregular shape prevents their removal by that way they may be pushed back into the pharynx and withdrawn through the mouth. It sometimes happens that a sequestrum is so large that the nasal orifices will not permit its passage, or so hard that it can not be broken up and removed piecemeal. Under such circumstances we may have recourse to the operation described by Rouge in 1873. In this method the soft parts, including the external nose, are detached by an incision along the gingivo-labial furrow and a dissection carried upward close to the bone until the nares are freely exposed. If necessary, additional space may be gained by chipping off with bone forceps the osseous margins of the *introtus nasi*. My first opinion of Rouge's incision\* has been confirmed on several recent occasions—namely, that it is especially adapted to cases of syphilitic necrosis, in which the size and shape of the sequestrum preclude its removal by the natural passages without extreme pain to the patient and damage to the soft parts.

The diagnosis of necrosis is seldom difficult. The characteristic odor of syphilitic *ozæna* is conclusive, but if need be may be confirmed by the exploring probe. It is not always easy to determine precisely what and how many bones may be affected, especially in cases of long standing. The landmarks may be so effaced by inflammatory thickening and cicatricial contraction that the parts can hardly be identified. Bone exposed by ulceration can not always be readily differentiated from dead bone. Hence the importance of rapidly getting the patient under the influence of internal medication. The parts should be kept clean by means of detergent sprays or douches. The fœtor may be modified, but can not be wholly corrected while the dead bone is retained. Yet attempts at its removal, unless its position and extent can be clearly made out, are unwise so long as the sequestrum is quite immovable, or if it be located high up in the nasal chambers near the *os planum* or the cribriform plate. The blind use of the drill or the burr, especially in the ethmoid region, can not be too strongly condemned. Exuberant granulations often spring up from the margins or base of an ulcer, and one may be tempted to reduce them with caustics or a curette. At times this may be necessary, but a wise conservatism in the use of destructive agents is to be recommended. I have never seen a genuine polyp in a case of nasal syphilis, except in one giving a clear antecedent history of nasal polypi.

In considering the question of relieving nasal deformity resulting from syphilis it is not my purpose to take up the subject of plastic surgery, or to refer to all the ingenious devices by which nasal defects may be remedied. Quite extensive loss of the external nose may

be repaired after a fashion by flaps taken from the forehead, the cheeks, or other parts of the body. Very remarkable success in counterfeiting a natural nose has been attained by the use of celluloid and other materials. I wish only to recall to your attention a method of overcoming the deformity known as "saddle nose," which results from more or less destruction of the cartilaginous and bony supports of the nose. It is not only a source of mortification to its victim, but may debar him from society as well as from employment. The unfortunate is generally glad to try any measure which may make him more presentable and enable him to gain a livelihood. The method referred to was first suggested by Létievant, and consists of inserting beneath the depressed nose a supporting framework of metal. Aluminum was first used, and subsequently C. Martin,\* of Lyons, made an artificial bridge of platinum, with lateral arms, to be imbedded in the superior maxilla on either side (Fig. 1). The latter was introduced into this country by Dr. R. F. Weir † in 1892.

The length and shape of the bridge and of the arms must be adapted to each individual case. The one here shown was worn by a patient for seven months and was then replaced by a larger one. The bridge is put in place through a Rouge incision, already referred to. Although the operation is comparatively free from risk, it is oftentimes very tedious, since great care must be employed in determining the dimensions of the apparatus and in properly fixing the ends of the supporting arms in the maxilla. In spite of the utmost precautions, the bridge sometimes becomes distorted, or its upper end erodes the overlying skin. Both of these accidents happened in the patient whose photograph is shown, and the bridge had to be removed (Fig. 2). At first the result appeared to be perfect, but after a few weeks the bridge seemed to become twisted out of place, the skin over the dorsum of the nose began to grow red and sensitive, and the plate threatened to penetrate. To prevent this disaster the arms were divided with bone-cutting forceps and the plate was withdrawn through the nostril. Notwithstanding this procedure, the skin ulcerated, and in process of repair a



FIG. 1.—The Martin bridge as used by Weir.

\* *La prothèse immédiate*, Paris, 1889.

† *New York Medical Journal*, October 22, 1892.

\* *Medical News*, Philadelphia, January 3, 1891.



puckered cicatrix rather added to the patient's disfigurement. Moreover, the retraction of cicatricial bands within the nose so obstructed the passage that their re-



FIG. 2, a.—Before operation.

peated division with the cautery knife became necessary to give adequate breathing space. A month ago I inserted another bridge in this case, similar to the one here shown, and up to the present time there has been no unfavorable symptom. The first operation



FIG. 2, b.—Six weeks after the insertion of the bridge.

on this patient was performed six years after his infection with syphilis, of which the early symptoms were meagre, and for which he never had any treatment until he came to the hospital. His urgent desire for relief from his deformity led me to operate, as I now believe, prematurely. Since the failure of the first attempt he has had thorough and prolonged medication, and, in con-

sequence, is in so much better condition that a good result may be expected. We have had a number of cases at the Manhattan in which this operation was undertaken by Dr. Hopkins, Dr. Nichols, Dr. McKernon, and myself, but except in three or four the permanent results have not been fully satisfactory. Nevertheless, I am inclined to believe that the failures have been due to faults of technics and selection of an improper time for operating, especially as regards the date of infection, and should not detract from the merits of the method. Dr. McKernon has two patients who have been wearing the bridge nearly two years with perfect comfort and complete relief of deformity. Dr. Weir informs me that in his best case the patient has retained the splint four years, but he has had several which were less successful. He considers it a good operation for cases in which the septum is entirely destroyed and there is no obstacle to drainage. Dr. C. A. Powers, of Denver, writes me that all of his three cases behaved well so long as they were under his observation. One patient retained the bridge about eighteen months. She was a syphilitic and finally died of tuberculosis. Another was a very complicated case in which an ala had to be formed from the cheek. On about the tenth day the bridge slipped and had to be readjusted. Neither of these cases, therefore, can be considered thoroughly favorable for operation. The third case was lost sight of in four months, meanwhile the bridge having been worn without objection. Dr. John A. Wyeth has used a platinum bridge in three cases. In two of these an armless bridge, which will be referred to later, was inserted. In one case in which a Martin bridge was introduced "the deformity was very greatly relieved, the patient was much more comfortable, and went home comparatively happy." At the end of eight months it was displaced by a blow and had to be removed. Dr. Wyeth counts this case as only a "partial success," although, until receipt of the injury, the bridge was entirely satisfactory. A case of operation by Dr. Emil Heuel, to whose courtesy I am indebted for the particulars, is an example of remarkably extensive necrosis due to syphilis of twelve years' standing, as well as of primary failure and final success of the platinum bridge. The nasal bones, vomer, lower half of the left, and a portion of the right superior maxillary bones, the ethmoid, the right lacrymal bone, and the superior, middle, and inferior turbinated bones had all been destroyed. The left incisor, canine, and bicuspid teeth were missing, and both maxillary sinuses were exposed. Three years ago a platinum bridge was put in, but it had to be removed in about six months on account of the irritation it excited. This patient has been wearing a bridge, modified by Dr. Heuel, for the last two years and a half without annoyance, and the case is considered successful.

My experience with the platinum bridge leads me to insist upon three points: 1. In syphilitic cases the patient must have had a thorough course of treatment,

and a sufficient period must have elapsed since the disappearance of active symptoms—not less than three years. 2. The dissection of the soft parts must be so extensive as to obviate the possibility of tension at any point, and especially over the bridge of the nose where the upper end of the plate is to rest. 3. The metal bridge must be so molded and smoothed down at its edges as to preclude the danger of friction and pressure upon the soft parts, and the ends of the supporting arms must be deeply buried in the maxilla, as otherwise they are liable to be dragged out of position. The tendency to retraction and collapse of the nostril, observed in some cases, may be prevented by giving considerable width to the arms at their line of junction with the plate. The cost of the platinum bridge, as originally made, which is an item of some importance in the class of patients usually needing this kind of attention, may be considerably reduced by having it cut from a single piece of metal (Fig. 3). This idea, suggested by Dr. F. E. Hopkins \*

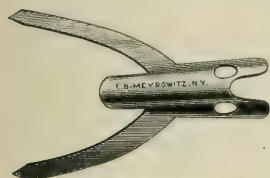


FIG. 3.—Hopkins's bridge.

first put in practice by him at the Manhattan, was found to be satisfactory. The bridge should be partially shaped beforehand and may be trimmed to suit the case at the time of operation. The after-

treatment of operative cases should be very simple, consisting merely of an application to the external nose of a piece of lint soaked in boric-acid solution. On the fourth day, and daily thereafter, a warm intranasal douche of a similar solution may be carefully used. No sutures are needed in replacing the lip, and no bandages or dressing which may exert pressure should be applied. The patient should be cautioned to avoid talking and laughing, and for a week should be restricted to semi-fluid diet. In other words, the parts should be kept at rest as far as possible until the process of repair is well advanced and the tissues have become accustomed in a degree to the presence of the foreign body.

In conclusion, let me refer briefly to a series of experiments with an "armless" bridge in a class of cases in which only partial destruction of the cartilage has resulted in moderate sinking in of the nose. In two of Dr. Wyeth's cases this form of bridge was inserted through a median incision over the dorsum of the nose. In one suppurative occurred and the plate had to be removed. In the other the external wound healed without suppuration and without scarring, and the bridge is still in place. It seemed to me it might be possible to put a simple plate of metal under the skin, a bed having been prepared for it by a dissection carried on through the nostril. Such was found to be the case, but the behavior of the plate was rather surprising.

The deformity was corrected, the foreign body excited no disturbance, but in a few weeks it became evident that the plate was cutting its way through the columna. It was removed, and one having numerous perforations was introduced, in the hope that the penetration of granulations would furnish a sort of anchorage for the metal. The latter pursued a similar course, although its weight was hardly appreciable. It is possible that better success will attend a further trial of this plan, provided some other material, such as celluloid or vulcanite be used, or the metallic plate be made much thicker, especially at its lower end. Permanent improvement in the contour of the nose ensued even in those cases in which the bridge was retained only a few weeks. The obvious advantages of this method are that it not only dispenses with an external wound, but substitutes for a long and troublesome operation, necessitated by the use of the Martin bridge, one of comparative simplicity, which may be performed in a subject of average fortitude under local anesthesia.

## A NASOPHARYNGEAL FIBROID TUMOR.\*

By E. FLETCHER INGALS, A. M., M. D.,  
CHICAGO.

ALTHOUGH many cases of nasopharyngeal fibrous tumors successfully treated have been reported by laryngologists, yet the records seem insufficient in many instances to prevent the general surgeon from removing the superior maxilla in order to extirpate growths that might be quite as well destroyed through the natural passages; therefore, even if there were no other reason than enlarging statistics, I feel justified in reporting another case. In this case a method which I have not formerly tried, and have not seen recommended for the ultimate destruction of these growths, has been attended by such satisfactory results that I wish to call the attention of this association to it, hoping that it may prove beneficial in some instances where the galvano-cautery or the knife could not well be employed.

The case was that of a boy, C. R., eleven years of age, who came to me in April, 1894. I learned that an undue fullness of the right cheek had been noticed when he was only four or five years of age, and during subsequent years he had had much trouble in breathing through the nose, with excessive discharge and loud respiration and snoring at night. For many months before consulting me he had been under the care of another laryngologist for the treatment of a nasopharyngeal growth. The patient was in general good health, his strength was fair, his appetite and digestion were normal, and his development was as good as that of most boys of his age. He had very little sense of smell, the voice had a nasal twang, and there was great difficulty in breathing through the nose. Upon examination I found the left nasal cavity half closed by deflection and exostosis of the septum; the right was completely occluded by a reddish growth at its posterior third, and there was a large red tumor

\* Read before the American Laryngological Association at its eighteenth annual congress.



in the nasopharynx, slightly nodular in form, and firm but elastic to the touch. The tumor upon removal was found to measure two inches by an inch and a half in length and width, and one inch in thickness. There was a small ulcer on the lower part of the tumor caused by previous treatment. The tonsils were slightly enlarged, and the pharynx was covered by tenacious mucus, which came down from the nasopharynx. Although the right cheek was abnormally full, inspection showed no indication of a tumor within it, but palpation revealed a slight thickening at the back part just beneath the zygomatic arch. I recommended an operation, but the parents decided to wait for some time, and I did not again see the boy for three months, at which time the growth had slightly enlarged, and the patient was having occasional transient pains in the jaw. The parts were anesthetized as thoroughly as could be done by cocaine injected by means of a hypodermic syringe with a long nozzle through both nares. The cocaine solution was also sprayed up behind the palate with an atomizer having a long bent tip. Two small English catheters were then passed through the right naris and brought out through the mouth, and through these the two ends of a platinum wire nearly three feet in length were passed, the loop remaining out at the mouth and the ends being brought out at the nostril. The catheters were then removed, and the loop of platinum wire was drawn up about the base of the tumor. The ends of the wire were then passed through the double tube of a galvano-cautery *écraseur* and made fast. The patient was told there would be considerable pain in removing the growth, but was asked to bear it as long as practicable, and told that as soon as he requested it the heat would be turned off. The platinum loop was now drawn tight, the current turned on, and kept for a second or two, until the pain caused the boy to ask that it be discontinued. He was allowed to rest for five or ten seconds; the current was then again turned on for one or two seconds, and again cut off and he allowed to rest as before. In this way we proceeded until the base of the tumor, about an inch in diameter, had been cut through. The tumor was then drawn out with forceps through the mouth. There was considerable hæmorrhage from the mucous membrane of the right naris due to abrasion of the surface by the electrode or to slight burning during the operation. This was checked by a strip of surgeon's lint packed into the naris from the nostril. This lint had been prepared by soaking it in a saturated solution of iodoform in ether, allowing it to dry, then dipping it in a saturated solution of boric acid in alcohol and drying. Two days later the packing was removed, and the patient was given a spray containing one third of a grain of thymol and four minims of the oil of cloves to the ounce of liquid alboline. A similar spray was continued throughout the subsequent treatment. The nasopharynx remained sore for some time, and no further operative measures were taken until the 28th of August, when a deep channel was burned through a portion of the growth that remained in the back part of the right naris. Six days later it was found that the breathing had been very much improved by this last cauterization. At this time I removed a small piece of the growth, about a centimetre in diameter, with the galvano-cautery snare. Nearly a month elapsed before any other cauterization was done; at that time and subsequently at intervals of from ten days to two weeks the remaining portion of the growth was cauterized four times; about six weeks later it was cauterized again, and again about a month later. One

month later, February, 1895, a final cauterization was made to a small bit of the growth which still remained in the back part of the right naris. By this cauterization the last vestiges of the tumor in the nasopharynx and nasal cavity were removed, and it did not return, though some irregularity remained in the nasopharynx as the result of cicatricial adhesions following the various cauterizations. The boy breathed freely through both sides, and had no inconvenience excepting from profuse secretion of mucus in the nasopharynx and posterior portion of the nasal cavity.

He was, however, beginning to be greatly annoyed by his schoolmates, who called him "Lumpy Jaw," on account of the swelling in the right cheek, due to enlargement of a portion of the tumor which had passed behind the palate bone and out beneath the zygomatic arch. This tumor, which could be readily felt, was nearly two centimetres in diameter and three centimetres in length. It passed downward and forward from a broad base, where it emerged from behind the palate bone.

A number of years ago I treated a similar case, in which I removed the growth from the nasopharynx and nasal cavity; but an offshoot into the cheek was operated on externally by the late Professor Gunn, who found great difficulty in checking the hæmorrhage, and was unable to entirely extirpate the growth; indeed, it would have been impossible to do it without removing the superior maxilla. Remembering former experience, I did not deem it wise to attempt to remove this mass with a knife. A very favorable experience in reducing the size and checking for many months the progress of the disease in two patients with malignant growths in the fauces by the submucous injection of lactic acid led me to try that agent in this case. On the 23d of April, 1895, I injected into the growth through the mouth fifteen minims of a twenty-five-per-cent. solution of lactic acid, to which had been added about fifteen per cent. of carbolic acid. When the patient reported about a week later, I found that the face had been very much swollen after the injection, so that he could not eat for two or three days, and he had been obliged to remain home from school. The inflammation and pain were so great that the injection was not repeated until about seven weeks afterward, when I employed a weaker solution. The boy was brave and patient, but still suffered much from the injection. About three weeks later, July 9, 1895, four or five minims of a four-per-cent. solution of cocaine were injected into the tumor, and this was followed by the injection of about twenty-five minims of a twenty-five-per-cent. aqueous solution of lactic acid, containing five per cent. of carbolic acid and twelve per cent. of glycerin.

Two weeks later it was noted that the lower portion of the fibrous growth was very much smaller, though the upper part still remained quite firm and was not much reduced. At this time fifteen minims of the same solution were again injected, and two weeks later the swelling of the cheek was very much diminished. About two thirds of the tumor seemed to have been destroyed by the last two injections. It was then about fifteen millimetres in its longest diameter. The injection was again repeated, and I did not see the patient subsequently for two months, when a similar injection was made. One month later, November 9, 1895, the tumor was again injected, and December 30th a similar injection was made.

I did not see the patient again until February 21, 1896. At this time the swelling of the cheek had nearly disappeared, and it was impossible to make out distinctly



any part of the growth, though an indurated mass about the size of a large pea could still be felt in the upper back part of the cheek where the growth had formerly been. It was probably partly cicatricial tissue, and partly the remains of the tumor. This was injected as at the preceding visits. I have not seen the patient since.

It is too early to report this case as absolutely cured, but a removal of fully ninety per cent. of the tumor by the injections of lactic acid convinces me that we at least have it in check, and that we shall be able to prevent its further progress by the same means. I believe that an agent so potent in the destruction of abnormal tissues must be of great value in the treatment of tumors so situated that they can not be removed by the galvanocautery or knife. In using the injections of lactic acid, it is important that the solution should not be too strong. It is well to begin with about fifteen per cent., and to increase the strength gradually to about thirty-five per cent., but never to go beyond a forty-per-cent. solution; a fifty-per-cent. solution will usually cause a slough. The acid alone in solution causes great pain, but, when combined with about five per cent. of carbolic acid, there is very little suffering. In order to prevent the immediate pain of the operation, it is important to inject a few minims of a weak solution of cocaine. I employ a four-per-cent. solution that also contains other ingredients that I believe render it more efficient, and at the same time prevent in great degree unpleasant constitutional effects. This solution is similar to one I obtained from a dentist, who injected it into the gums to prevent pain in extraction of teeth. I have used it for several years in anesthetizing the nasal cavities previous to operations, and since employing it I have obtained the constitutional effects of cocaine very much less frequently than formerly, and anæsthesia has been more rapidly produced. The solution contains atropine (a heart stimulant and local anæsthetic), a tenth of a grain; oil of cloves (also a local anæsthetic and antiseptic), three minims; carbolic acid (a local anæsthetic which appears by coagulation of albumin to prevent the absorption of cocaine), ten grains; and hydrochloride of cocaine, twenty grains to the ounce of distilled water. Whether or not this particular combination is better than others I do not pretend to say, but I am sure that it is much more satisfactory than a simple solution of cocaine. The anæsthesia is obtained more quickly and maintained longer and unpleasant constitutional effects are infinitely less frequent.

36 WASHINGTON STREET.

**Minnesota Coroner's Fees.**—Where the coroner on the same day makes two separate examinations of two different dead bodies, or holds an inquest on one body and makes an examination on the other, the supreme court of Minnesota holds, in *Kistler vs. Board of Commissioners of Hennepin County*, decided June 24, 1896, that, under section 5554, General Statutes 1894, he is not entitled to a fee of five dollars for each examination and each inquest, or to anything more than five dollars per day "for the time actually spent."—*Journal of the American Medical Association*.

## A CASE OF PERICHONDritis OF THE LARYNX FROM AN UNUSUAL CAUSE.\*

By H. S. BIRKETT, M. D.,

MONTREAL,  
PROFESSOR OF LARYNGOLOGY IN MCGILL UNIVERSITY;  
LARYNGOLOGIST TO THE MONTREAL GENERAL HOSPITAL.

In the month of May last I was kindly asked by Dr. Lafleur to see a patient, Mr. H. S., in consultation with him, in reference to a difficulty of swallowing and pain in the throat.

Mr. H. S. had consulted Dr. Lafleur a week previously on account of a specific urethritis, which he had already been suffering from for the past three weeks. During this period he had taken large doses of sandalwood oil, which had been prescribed for him by a chemist.

At the time of consultation he was suffering from urethral discharge, sweating preceded by chill and fever, pain in the left knee, ankle, and right shoulder joints, and a soreness of the left side of the throat, especially when swallowing either liquid or solid food; at the same time the voice was decidedly hoarse.

A few days later the right knee joint became painful, the affected joints being swollen and tender. No redness of the skin covering the joints, and no elevation of bodily temperature during the intervals of the chill. While the joints were affected the urethral discharge ceased. Examination of the urine showed it to be dark and of a muddy color, cloudy, and having a heavy precipitate; strongly acid; specific gravity, 1.028, containing no sugar; urea, nine grammes to the litre and a gramme of albumin to the litre. Microscopic examination showed blood and pus cells and blood casts. The urethral discharge was found upon examination to contain large numbers of gonococci.

*Examination of the Larynx.*—The mucous membrane over the left crico-arytenoid joint was swollen and oedematous. The aryepiglottic fold on that side was not swollen. The true vocal cords were white in color; the movements of the left one, that of adduction and abduction, were decidedly slower than those of the right; pressure over the affected joint outside was very painful; no grating felt on passive movement.

The voice was hoarse and more deeply pitched than normal.

The treatment consisted in the constant application of a Leiter's ice coil, which afforded the patient a great deal of relief.

In the course of a week the swelling of the left crico-arytenoid joint coincident with the decrease of the swelling of the other involved joints had entirely disappeared, the voice regained its normal tone, and the vocal cord lost its impaired movement.

The occurrence of an acute perichondritis during an attack of gonorrhœal rheumatism is, I believe, of sufficient rarity to warrant the placing of this case on record.

123 STANLEY STREET.

**Change of Address.**—Dr. C. Burton Conner, from Boston to No. 49 Plymouth Street, Brockton, Massachusetts.

\* Read before the American Laryngological Association at its eighteenth annual congress.

## MYCETOMA, THE FUNGUS FOOT OF INDIA.

BY BENJAMIN F. POPE, M.D.,

SURGEON, U. S. ARMY.

AND D. S. LAMB, M.D.,

ARMY MEDICAL MUSEUM.

BRUNO LARAS, aged twenty-seven years, of Mexican parentage, married, father of three children. No history of syphilis, but he had some enlargement of the trochanter lymphatics and post-cervical glands. Dr. Pope first saw him January 31, 1877; for eight years the patient had had some disease of the right foot which had become intolerable on account of the tenderness and constant pain. He was thin and worn, partly from suffering and partly from starvation, for he was very poor. His foot was much enlarged, measuring eleven inches and a half over the metatarsal-phalangeal joints, and was nearly four inches thick at the base of the little toe. The dorsal, plantar, and outer surfaces were covered by a sort of eruption beginning at one point as a small, well-defined, subcutaneous tubercle; at another as a more diffuse, somewhat resistant swelling, with a feeling of fluctuation. Over the points of recent invasion the skin was pale, smooth, elevated, with no sign of inflammation, and ordinarily not tender on pressure. Later on these elevations underwent a general degeneration; the cuticle exfoliated, the covering tissues generally thinned, the sac ruptured with the discharge of a bloody serum, and perhaps a drop of pus. From the more matured points there were forced out under pressure small white granules surrounded by a drop of glutinous material. These granules were quite firm, resisting considerable pressure, and much resembled rice grains or poppy seeds.

On the plantar surface the disease began as small dark-blue vesicles, containing effused blood, varying in size from that of a split pea to a No. 8 bird shot; the tubercle was not well defined, probably because of a deficiency of plastic effusion in the thick, hard plantar integument. The degenerative process was as already described. On opening these blood blisters on the dorsum or sole of the foot, the probe detected a small subcutaneous excavation and a sinus one to three inches long, leading upward, downward, or laterally toward the tarsal or metatarsal bones; but no involvement of the bones could be detected. The toes were as movable as the swelling would permit; no sound of rubbing or grating could be detected to indicate denuded bone. The mature points of eruption were dusky elevations of the skin, the summits of which were crowned with small knots of flabby granulation, from the centre of which there oozed, at times, a little bloody serum, and perhaps a drop of pus, hardly enough to stain the dressings. There was no induration of the bases of these elevations and no line of tegumentary demarcation; while the skin between the points was sometimes pale and greasy, at others dusky and glistening. Sometimes the sinus closed up after evacuation of its contents, leaving a small, irregularly depressed cicatrix showing a brownish centre and white border. The tissues surrounding the third, fourth, and fifth metatarsal bones, both on plantar and dorsal surfaces, were the most involved, and the disease did not extend beyond the metatarsus, except on the inner side of the foot, where there were one or two points of disease. The second and third toes were unaffected, except by edema, while the great toe was entirely free from disease. The general swelling

appeared to be due partly to edema, but mainly to induration of the tissues, and did not extend beyond the malleoli. The temperature of the foot was slightly elevated; pain constant, especially severe at night, and accompanied with aching in the joints. He went about with the help of a stick, and his constitution did not appear to be seriously affected. Appetite much better than his supply of food, strength fairly good.

*Diagnosis.*—Mycetoma or Madura foot of India.

*Treatment.*—A solution of sodium sulphite, twenty grains to the ounce of water, was injected into three sinuses, causing much pain, which subsided, however, in a few hours. A lotion of carbolic acid, five drachms to two pints of water, was given him for local application, and he was instructed to appear once a week.

*February 14th.*—Foot much swollen; less pain at night; the injected sinuses had closed; six others were now injected, forcing out granular bodies, with some blood and serum, not only from those injected, but others connected with them, the solution appearing at several points at the same time.

*21st.*—Sodium sulphite stopped because it caused too much irritation, and five minims of phenol, in one ounce of distilled water, used instead.

*March 1st.*—All the vesicles on the dorsum of the foot were opened and evacuated of their contents. The fistulae on the sole of the foot seemed deeper and more tortuous. The plantar cuticle in places looked as though it had been cut out with a punch.

*22d.*—Nocturnal pain had ceased; he could bear a little weight on the foot in walking; several sinuses on the dorsum had healed, but a fresh crop of tubercles had appeared in this situation. Each vesicle was incised at its summit, a grooved director inserted by its scoop end, and all accessible granules removed. Each opening was then injected with a twenty-minim solution of phenol to which twenty minims of solution of chloride of zinc were added. The injection caused much pain and much hemorrhage from the sinuses.

*May 22d.*—Admitted to post hospital, Fort Stockton, for operation, as there seemed no prospect of curing the disease. No permanent improvement could be recognized; there seemed to be just as many sinuses burrowing in the foot in all directions, and the disease seemed to be steadily approaching the ankle and diminishing the chance of a useful stump. The constant pain had shown its effect on his general condition.

*26th.*—Gave Squibb's ether, which he bore well, and Dr. Pope did a Girden's amputation, an inch and a half above the ankle joint. Long anterior and short posterior flap; anterior and posterior tibial arteries tied; about twelve other arteries and veins, which were much enlarged and surrounded by unelastic hardened connective tissue, were tied or compressed; the flaps were carefully examined and all suspicious points excised; they were then thoroughly bathed in a weak solution of carbolic acid, and after sufficient exposure to air were accurately sutured with fine silver wire; drainage openings below and on outer side; stump lightly dressed with old mosquito netting saturated with carbolic lotion, placed on a pillow, and surrounded by a cushion of finely picked oakum. There was no nausea or vomiting; the patient slept well after the operation; the next day he had no pain; there was moderate oozing from the wound. Union took place promptly; on the third day the unsutured edges were opened, and a carbolic horse-hair drain was inserted. Complete adhesion took place in less than ten days.



Examination of the amputated foot showed it distended with fatty tissue; there was fatty degeneration of ligaments, muscles, and connective tissue, including blood-vessels; these vessels seemed almost occluded by the pressure of the surrounding fat; the cancellous portion of the scaphoid and cuboid bones and bases and shafts of metatarsals were softened, friable, and excavated by atrophic process; there was no true caries; the outer surfaces were ulcerated and roughened by osseous deposits; the astragalus, os calcis, and lower ends of the tibia and fibula were normal. On removing the thickened plantar cuticle the sole of the foot looked as if it had been riddled with small shot at short range; sinuses and fistulae burrowed everywhere, communicating freely with each other, and ending in foci of granular matter mixed with grayish gelatinous exudate and some pus; the foci varied in size from that of a pea to that of a bullet and seemed not to be confined by any limiting membrane, but freely diffused through the degenerated tissue. There was no marked venous engorgement, but everywhere a distention and multiplication of cutaneous arterioles, probably compensating for the closure of the larger vessels. Many hæmorrhagic infarctions existed; the spaces were filled with grumous blood and communicated with the blood blisters.

The specimen, which was removed May 26, 1877, was received at the museum April 24, 1878. Was numbered 6,831, Pathological Series. Under date of March 8, 1878, Fort Stockton, Tex., Dr. Pope wrote: "The specimen of Madura foot is one of peculiar interest, as it is the only one I have knowledge of as occurring on this continent. Microscopic preparations of the peculiar fungus have been prepared rather roughly by me, but they exhibit very clearly the typical characteristics of the growth."

His microscopic examination is described as follows:

"The microscopic appearances of the different specimens submitted to inspection under a one-fourth objective of R. and J. Beck were somewhat conflicting and confusing. Thin sections from different portions of the degenerated tissues showed only the ordinary adipose cell, whose excessive proliferation was secondary to the original lesion and is common in all lipomatous tumors. Several of the poppy-seed granules taken fresh from their sinuses were without preparation submitted to sufficient pressure under a glass cover to permit the transmission of light, and showed what appeared to be irregularly shaped sacs, ruptured at different points, containing broods of ovoid non-nucleated cells (?). In granules treated with dilute acetic acid there was much the same appearance. Granules soaked in a solution of glycerin and distilled water, equal parts, for twenty-four hours, showed the sacs and all their intersecting spaces covered with a profuse hairlike growth, minute granules or spherules, fine threads, and complex rodlike and fimbriated cells. With oil of cloves this spore development was not so apparent.

"Before proceeding further, it becomes necessary for me to remark that it was only with the glycerin solution that the spores were seen at their best or even at all. Dilute acetic acid with glycerin seemed to check the spore development to a great extent. These facts led me to question the value of the appearance, for I was reminded that in other instances I had found the growth

of fungi peculiarly rapid and profuse in glycerin-water solutions; further, that this growth sometimes took place where there had been no apparent contact with organic germs, other than those that might have been absorbed from the atmosphere, and that the forms of these air growths were so numerous and so varied as to be wholly beyond my powers of classification or determination; so that what might or what might not have been an air germ developing under the glass cover of any ordinary microscopic specimen, mounted in glycerin solution, would be very difficult of decision.

"To insure, if possible, the entire exclusion of these foreign fungi, I took especial care in preparing a fresh solution of glycerin and water, and applying it directly to a fresh granule after it had been compressed under a thin covering glass, and then I sealed up all the edges with Canada balsam. An immediate inspection gave no result; after twenty-four hours, however, the spore development was well marked, and seemed to increase day by day for three days, when it ceased. In this instance even I am not prepared to say that the spores seen in connection with the specimen under examination were really a part of the diseased growth, though the probabilities seemed to be in favor of such a supposition; especially when one considers that the proliferation of the fungus was checked at the end of three days and did not spread beyond the borders of the morbid granule. Had it been an air germ developing under peculiarly favorable conditions one would suppose that the growth would fill the entire field of vision.

"Considerable difference will be noted between the East Indian and the American variety of the fungus, although the resulting lesions have a marked similarity to each other. The *Chionophye Carteri* has a large, spore-like cell, one one-hundred-and-twentieth of an inch in diameter, the fibres or threads of which they are the terminal expansions being one three-thousandth of an inch in diameter; these threads too are beaded.

"In the American variety perfect sacs containing brood cells are one five-hundredth of an inch in diameter; some are a third larger, made so, perhaps, by compression; while the hairlike mycelia are about one five-thousandth of an inch in diameter, three thousandths of an inch long, rarely more than this. They are tufted and bristling, often broken; they do not end in globular dilatations, but have free and rather wavy extremities, neither are they beaded. As before stated, there is minute granular matter in abundance, ovoid mononuclear daughter cells, one one-thousandth of an inch in long diameter, one five-thousandth of an inch in short diameter, irregular and rod-shaped cilia, complex fimbriated growths, that may be either true cells undergoing fissiparous multiplication, or mere accidental aggregations of brood cells."

*Note by Dr. Lamb.*—At the meeting of the Association of American Physicians and Surgeons, held May 30, 31, 1895, at the Army Medical Museum and Library, Washington, D. C. (see *Transactions of the society*, vol. x, 1895, pp. 92 *et seq.*), Professor J. George Adami, of McGill University, Montreal, Canada, reported a case of the ochroid form of mycetoma or fungous foot of India which had come under his observation, and stated that he did not know of any other case having occurred on this continent, although very likely such cases had occurred. Had I been present at the meeting I could



have told him that only a few yards from him—namely, in the museum hall—there was at that moment a specimen of mycetoma, received in 1878 from Dr. Pope, the story of which, however, had never been published. Some time afterward I wrote to Professor Adami and to Dr. Pope also in regard to the matter; in reply, Dr. Pope, December 16, 1895, wrote to me: "You are at liberty to publish such excerpts as you think proper, together with your own views, after examining the specimen."

The foregoing history of the case is substantially as reported by Dr. Pope. I have but little comment to make. The specimen and history together seem to me to show conclusively that the case is one of the ochroid form of mycetoma. It is probable that the patient had never been in India, and the museum specimens received from India accord with the observation that in India the dark form and not the ochroid is the one almost invariably found. The microscopical examinations made at the museum have been unsatisfactory, because the degeneration of tissues was too far advanced. The specimen has been freely opened and shows sinuses throughout, with brownish walls, and occupying the interval between the os calcis and toes; the bones in this space show more or less erosion, a rarefying osteitis; within many of these bony cavities, as well as in many of the sinuses, are still to be seen small roelike masses. The sole of the foot is well described above as looking as if it had been riddled with shot.

### THE DIAGNOSIS AND TREATMENT OF CEREBRAL MENINGEAL HEMORRHAGE.\*

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WITH the rapid and in some instances revolutionary changes which have occurred within recent years new questions are constantly confronting us and old ones require to be examined in a new light. Among these changes perhaps none are more noteworthy than the surgical invasion of the brain. And the circumstance that certain types of intracranial hemorrhage can be thus treated in a radically curative manner has given to the neurologist some difficult and often insoluble diagnostic problems. It is from the standpoint of the neurologist and general diagnostician that I shall consider the subject which forms the title of this essay, and which is of both neurological and surgical interest.

The anatomical relations of the cranio-cerebral structures are such that meningeal hemorrhage may occur either between the dura and skull, between the dura and subarachnoid, between the latter and the pia, or beneath the pia. We thus have four possible forms of meningeal hemorrhage: Extradural, subdural, subarach-

noidean, and subpial. The arachnoid, for the reason that it is little more than a thin movable diaphragm between the dura and pia, is of but relatively little importance as a partition between the possible sites of meningeal hemorrhage.

The main questions then, as it appears to me, and which I will endeavor briefly to review, are:

1. Have we in any individual case really to deal with intracranial hemorrhage? 2. Is it meningeal? 3. Is it extradural or subdural? 4. What shall the treatment be? Of course it must be frankly conceded at the outset that in a considerable proportion of cases we are not yet in position to give a satisfactory answer to all, or even to any of these questions. There is probably no class of cases in which the diagnostician is put, so to speak, more fully on his metal, and in which the faculty of close and accurate observation and power of logical analysis are more imperatively demanded. But with all this he must often arrive at "lame and impotent conclusions," because of the present status of physiological knowledge and the frequent absence or faultiness of clinical histories.

The first question, as to the existence or non-existence of intracranial hemorrhage, I shall simply formulate. The problems of diagnosis are utterly different according as we have to deal with traumatic or spontaneous cases. In the former case we have to differentiate from contusion, concussion, depressed fracture, and abscess; in the latter, principally from embolism and thrombosis in the rapid cases, with the addition of abscess and neoplastic formations in the slower. Of course some of the conditions mentioned, coexisting with the hemorrhage, may render the diagnosis of the latter equally impossible and futile.

Passing at once to the next question, we will inquire whether, intracranial hemorrhage having been assumed, we can decide whether it is meningeal or intracerebral. In many cases we can not. But we are, fortunately, not without significant data, both as regards the symptomatology and clinical history, which will aid us in the solution of this practically all-important question. In the first place it may be remarked in a general way that if it is traumatic it is probably meningeal or both; and if spontaneous, intracerebral. These propositions must be received, however, with considerable mental reservation, inasmuch as there are numerous exceptions. In traumatic cases the already classical lucid interval between injury and pressure symptoms, whether its duration be of minutes, hours, or days, is almost conclusive proof of meningeal hemorrhage. This interval would probably always be present, however brief, were it not for the submerged consciousness of complicating conditions, which too frequently passes unbroken into that of hemorrhagic pressure. Attention has been called to the subsequent rise of general body temperature in cases of hemorrhage, as a distinguishing point between this and concussion. If Hutchinson's observation, that the brain in cases of

\* Read before the Indiana State Medical Society, at Fort Wayne, Ind., May 29, 1896.

concussion is pale and bloodless, is correct, a depressed local temperature would be almost a necessary corollary. The study of the surface temperature of the skull, then, ought to aid in the diagnosis, a rise indicating hæmorrhage or contusion. I can not refrain from remarking in this connection that I am firmly convinced, after a somewhat extended series of observations of the surface temperature of the skull in cases of brain tumors, meningeal hæmorrhage, and other cerebral lesions, that this aid to diagnosis is entitled to fuller recognition than it is now receiving.

The occurrence of spasmodic movements upon one side, preceding unconsciousness, points to hæmorrhage beneath the arachnoidea, and possibly beneath the pia. On the other hand, complete or nearly complete hemiplegia, with slight or transitory coma, is in favor of intracerebral hæmorrhage; while the deepest comas, in which the hemiplegia, if present, may be masked to casual observation, are found in hæmorrhages of the meningeal or ventricular type. Inequality of the pupils, with the dilatation on the side of the lesion, is in favor of meningeal hæmorrhage. So is pain not otherwise explained.

A few cases have been reported in which slow sub-arachnoidean hæmorrhage, spreading out over the surface of the hemisphere, produced rhythmical spasmodic movements of the opposite limbs. This, by itself, would not, of course, establish the diagnosis; but, if followed later by hemiplegia and coma, no doubt should remain that the case was one of meningeal hæmorrhage. In line with this observation it may be said that in any case of intracranial hæmorrhage, in which the symptoms begin very gradually, and progressively advance with some regularity, and after hours or days reach the stage of complete hemiplegia and coma, the case is almost certainly one of meningeal hæmorrhage, whether traumatic or spontaneous.

It will thus be seen that we are in possession of data which enable us in many cases, in which the clinical history is available, to distinguish between meningeal and intracerebral hæmorrhage with as much certainty as can be attained in the case of lesions of any other inaccessible organ.

We will now pass to the third question: Can we distinguish between the different forms of meningeal hæmorrhage?

As already indicated, the distinction of chief importance is between those which are extradural and those which are between the dura and the cortex, ignoring the particular forms of the latter, although some recorded cases, and especially one by Starr, indicate the occasional clinical importance of the subpial form, its anatomical relations, like those of the extradural variety, limiting its extension, and causing the focal to predominate over the pressure symptoms.

The positive diagnosis between extradural and subdural hæmorrhage is in the majority of cases difficult, and in many impossible. The very slow development

of symptoms following trauma, with paralysis and coma later, point very strongly to extradural hæmorrhage. Jacobson, basing his conclusions on the study of about eighty cases, asserts that dilatation of the pupil on the side of the lesion is diagnostic of extradural hæmorrhage. This phenomenon, which, as Jacobson justly observes, should be designated Hutchinson's pupil, is produced by the extension of clot toward the base, causing pressure on the third nerve. It seems doubtful, however, if much importance can be attached to it as indicating upon which side of the dura the clot lies. This is fully illustrated by a recent case of which I made a neurological study for diagnostic purposes, at the request of Dr. W. H. Myers, who subsequently operated upon the patient. In this case a post-operative subdural clot produced marked dilatation of the pupil on the side of the lesion, contrary to Jacobson's contention. In another case, which I saw in consultation with Dr. A. B. Darby and J. E. Shoewalter, of Waterloo, Indiana, the pupils were perfectly symmetrical, though immobile, and rather small. Post-mortem examination showed a large subdural clot just behind the arm centre, the operative relief of which I had advised, and which the examination demonstrated could easily have been accomplished. After a careful study of numerous recorded cases, and in the light of my own observation, I feel justified in asserting that the only thing which can be safely predicated upon Hutchinson's pupil is that the pressure is affecting the base of the brain upon the corresponding side. It is, however, of the greatest value in this connection; and when occurring in the historical development of the clinical picture of a case of meningeal hæmorrhage, it furnishes an external sign of internal events that is at once graphic and important.

In concluding this necessarily brief discussion of diagnosis, one fact should be kept constantly in mind; it is, that the hæmorrhage is almost certainly not extradural unless there is well-marked hemiplegia; and further, as it seems to me, unless the hemiplegia or other focal symptoms predominate over the symptoms of general pressure.

It would aid immensely in the final solution of these questions if general practitioners, who almost invariably see these cases first, would make an accurate record of the development of symptoms, and especially those relating to the pupils, to motion, and to speech.

We are now ready to rapidly consider the line of treatment to be followed in such cases. This should be, in a word, if I may be permitted to use a somewhat antithetical phrase, a conservatively aggressive combination of expectant, medical, and surgical measures, so modified as to meet the exigencies of each particular case. Let us particularize a little.

As soon as possible after the occurrence of a meningeal hæmorrhage, whether traumatic or spontaneous, the patient should be placed in a quiet, well-ventilated, and softly lighted or darkened room. The favorable influ-

ence of gravity should be invoked by elevating the head of the bed, avoiding such an inclination as would place the patient in a constrained position, thus producing nervous irritability, with increased heart action, and harm rather than benefit. The head should be very moderately raised on a small, somewhat firm pillow, avoiding too great flexion of the neck with its obstruction to venous return. The scalp should be shaved and disinfected in every case. This is imperatively demanded alike for the purposes of accurate examination, subsequent clinical study, surface applications, and, when required, surgical interference. There should be no compromise on this hair question. The brain is sufficiently inaccessible, and its symptomatology sufficiently ill-defined without further obscuration by a cushion of hair.

Stimulants and heart tonics should not be given in any case of suspected meningeal hæmorrhage unless life is in imminent danger. Their indiscriminate use has often converted what might have been a trifling extravasation into one of fatal issue. The period of partial collapse is Nature's opportunity of sealing up the rent by a barrier which may be firm enough to resist the *vis a tergo* of a feeble heart, but which would give way readily before the throbbing currents of a heart goaded into violent action by alcohol, digitalis, or ammonia. On the contrary, the increasing force of the circulation should be carefully watched, and, when necessary, controlled by cardiac depressants. For the same reason the volume of the circulation should not be swollen by free libations of fluid.

The external application of cold is of the utmost importance. Surgeons have long been in the habit of controlling post-operative meningeal or even cortical hæmorrhage by the application of the ice-bag or a freezing mixture on the outside of the surgical dressing. These dressings are, of course, very poor conductors of heat, and it is perfectly obvious that the subcranial heat can be more rapidly abstracted through the better conducting media of shaved scalp and skull. The powerful hæmostatic action of cold, together with its sedative action upon the physiological processes of the brain, render it by far the most important non-surgical measure at our command for the purposes indicated.

These means having failed to arrest the hæmorrhage, the services of the surgeon should be requested in every case in which a localizing diagnosis can be made and the effusion is in an accessible location. Even when the localizing diagnosis is involved in some doubt, as it often will be, an exploratory operation should still be advised, if the gravity of the symptoms demand it. The neurologist may be unable to decide between two locations. The most probable one should be first operated, and if unsuccessful, a second opening unhesitatingly made at the alternative location. Such a case occurred in the practice of, I think, Dr. F. N. Dercum, of Philadelphia. The point at which he first directed the surgeon to operate was the wrong one. He advised a second, but the

surgeon declined to make it; post-mortem examination showed a meningeal blood clot at the second point indicated, and the patient would probably have been saved had the surgeon followed the advice of the neurologist. It probably requires considerable courage and confidence on the part of the surgeon to do this, in view of the uncertainties which frequently overhang the diagnosis of the neurologist in brain lesions, but the simple fact is that there does not seem to be, nor in the nature of things can there be, any better light to follow. Both neurologists and surgeons are learning the lesson that there is no special hazard in the removal of a few square inches of the cranial vault if done with proper precautions. There should be little hesitation, therefore, in giving to doubtful cases (properly selected, of course) the benefit of a procedure which will be diagnostic at least, and which may be radically curative.

While both the neurologist and surgeon should be progressive and bold enough to see their duty and to perform it, yet such measures must not be resorted to unless and until they are demanded either by the urgency of the symptoms or by the prospect of secondary changes which may imperil the patient's future.

When circumstances permit of continual watchfulness and prompt action at any time, the operation should not in many cases be performed at once, even though it appears probable that it will finally be required. Time should be given for the formation of a clot which will favor permanent closure of the vessel. Compression of the brain sufficient to produce mild focal symptoms will be tolerated several days without permanent damage. This gives ample time for watching developments and permitting spontaneous arrest. It must be borne in mind, however, that patients have gone to bed after very slight head injuries, with doubtful symptoms of meningeal hæmorrhage, gone quietly to sleep and wakened their companions in the night by the stertorous breathing of a coma which heralded impending dissolution. The watchfulness should therefore be unintermitting.

If the hæmorrhage ceases and the symptoms become retrogressive, but persist, should the skull still be opened? This must depend altogether upon the symptoms in each case. A reasonable time may be allowed for the complete disappearance of symptoms. If this does not occur, and especially if marked focal symptoms remain, and although all danger to life has apparently passed away, the operation should still be performed in order to save the patient from the results of chronic compression, with the symptoms of an irritative lesion, or possibly cerebral agensis, if the patient is sufficiently young. Such a result I recently saw in a case referred to me by Dr. George C. Stemen. The history indicated a meningeal hæmorrhage in childhood, and now at the age of eighteen or twenty years the patient is markedly hemiplegic and a confirmed epileptic, with the usual psychical tendencies. There are some things in this world that are worse than death, and this is one of them.



In conclusion, I wish to remark that while no one can be more painfully conscious than myself of the difficulties that are inherent in the diagnosis and treatment of meningeal hæmorrhage, yet I am fully convinced that there will be fewer fatal issues, fewer chronic hemiplegias, epileptics, and dementes, when we act fully up to the light which we now possess.

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## THE SEQUELÆ OF SYPHILIS OF THE LARYNX AND THEIR TREATMENT.\*

By WILLIAM K. SIMPSON, M.D.

IN presenting the discussion of The Sequelæ of Syphilis and their Treatment which has been assigned me, it is not my intention, nor will time permit, to consider the entire subject in detail, but simply to touch upon some of the more salient features, and to emphasize more particularly the treatment of the resulting chronic laryngeal stenosis by the method of intubation. The whole subject is a vast one and has been fully considered by others, but its importance and interest are such that one can always find profit in its consideration, even at the risk of repetition.

When we come to discuss the sequelæ of syphilis we are at once confronted with the importance of exactly defining the term *sequelæ*, and giving them their true relation in the progressive course of the disease. If we adhere to the older and more commonly accepted clinical division of syphilis into primary, secondary, and tertiary stages, then a consideration of the subject refers to that of the resulting conditions of a tertiary involvement.

The term *sequelæ*, as applied to syphilis, differs somewhat from its application to many other diseases; for example, suppurative otitis and chronic nephritis may become sequelæ of scarlet fever. Post-diphtheritic paralysis may be a sequel of diphtheria, and valvular disease of the heart of acute rheumatism, neither necessarily happening in the course of the disease, but as complications or accidents. With syphilis it is different; the late manifestations occur in regular order, and vary only in the length of time of their appearance and in their nature, as they may attack the various organs and regions of the body. Tertiary lesions are to be expected in due course of the disease, unless modified or stopped by efficient treatment in the earlier stages, and even this is denied by some.

I think, with a measure of correctness, that sequelæ of syphilis, as they pertain to the larynx, may occur (1) as acute exacerbations of long-standing tertiary conditions, and (2) the resulting permanent changes of tertiary lesions, both in their occurrence affecting the laryngeal functions of voice and breathing. These two

conditions are so often intermingled that we can not always make a perfect line of demarcation. Aside from these two extreme manifestations of syphilis, there are undoubtedly changes in the larynx other than of a purely structural nature, sufficient, at least, to interfere with phonation, and often of such a lasting and chronic character that the term *sequelæ* may be used. Under this division may be classed those patients who have syphilitic lesions in other portions of the body, while there have been no manifestations of a structural change in the larynx, the only involvement being a chronic hyperæmia, with attendant change of secretion, possibly some thickening, and the only subjective symptom being more or less hoarseness and loss of control of voice for any exactness of use. This is especially so in those who use their voices professionally, either in teaching, public speaking, or singing, or in the more violent use of the voice, which demands constant and regular shouting, seen in various occupations.

The overuse and strain of the voice, from whatever cause, unquestionably determines its functional impairment in many syphilitics, even if there is no direct specific lesion in the larynx. This impairment of the vocal function is also very prone to occur in chronic syphilitics whose occupations unduly expose them to inclement weather and climatic changes; this is especially seen among sailors. This passing involvement of the larynx may take place at any time during the course of syphilis, and must be taken into consideration whenever we are called upon to pass judgment on voice impairment. The treatment of this condition necessarily resolves itself into a judicious local treatment of the larynx, changes of environment, attention to hygiene, and regulation of the voice to meet the individual case, in conjunction with iodide of potassium and mercury, either singly or in combination.

Important as the above-enumerated causes may be in determining functional laryngeal impairment, wherein the larynx may not be, *per se*, the seat of syphilitic changes, much the more is their importance emphasized in those cases where the larynx has been, or is at the time actively involved, by a syphilitic lesion.

It is imperative that there should be a thorough appreciation of these sudden determining causes of exacerbation, as they are often the deciding point in diagnosis in cases of severity seen perhaps for the first time.

All serious intralaryngeal conditions in the adult, with a history of sudden onset, should at once arouse a strong suspicion of syphilis, and it may be said almost as a positive fact that all tertiary conditions of the larynx, of whatever nature and at whatever stage, are liable to sudden serious exacerbations. It is these sudden exacerbations, ingrafted on an existing lesion, that often produce the fatal occlusion, and by their acute swelling cover up and mask the underlying lesion. It is for this reason that when a case of laryngeal stenosis in the adult presents itself in the mirror as a smooth, uniform red

\* Read before the American Laryngological Association at its eighteenth annual congress.

swelling, we meet with difficulty, or fail entirely to relieve by intubation or other forms of dilatation; it may cover up a dense gumma, the dense swelling of a perichondritis, an irregular cicatricial contraction or deformity, or a subglottic stenosis.

Among the sequelæ of syphilis of the larynx, resulting from a previous active involvement, may be mentioned chronic thickening or induration, defined or diffuse; loss of tissue from ulceration, or from breaking down of a gumma, or from an abscess of a perichondritis; a deeper necrosis, affecting the cartilage, causing extrusion; ankylosed joints, paralysis, redundant and weblike tissue, and, finally, the resulting cicatrices, adhesions, and deformities.

It is not within the scope of my discussion to elaborate the different points of diagnosis of uncomplicated syphilitic lesions of the larynx, nor upon their differentiation from other lesions, and I will only say, in passing, that the isolation of the syphilitic preponderance is often a matter of great difficulty when there is an association with other dyscrasias, as, for instance, with rheumatism, tuberculosis, and malignancy. In one of my early reported cases of intubation in the adult there was a marked instance of the difficulty of distinction between rheumatism and syphilis of the larynx, the patient giving an ample history of both infections; the severer laryngeal conditions would yield only to the iodide in large doses, finally resulting in an ankylosis of the right crico-arytenoid joint; she subsequently developed a hemiplegia from a syphilitic brain lesion. The greatest difficulty of distinction undoubtedly exists when there is an association of laryngeal tuberculosis and syphilis, which combination, though rare, is, I think, generally admitted. We should be careful in committing ourselves to this coexistence in a given instance, unless tubercular bacilli can be found, either from pulmonary expectoration or from laryngeal secretion. G. C. Wilkin, of London,\* reports a case of pulmonary and laryngeal involvement pointing strongly to tuberculosis, both conditions, however, clearing up under the iodide. Several examinations for bacilli were made and they were not found, which fact, taken with the result of treatment, I think invalidates the theory of the combination of the two diseases.

I have at present under my care a patient with a long-standing syphilitic history who has developed a recurring, spindle-shaped sarcoma of the larynx, necessitating laryngectomy. The growth was removed in the first instance by the endolaryngeal method, and the patient placed on large doses of iodide of potassium. There was some reason for belief at first that benefit followed the use of the iodide, but at the expiration of nine months the growth recurred, and, in spite of the continued and increasing dosage, finally grew very rapidly.

The two great indications to meet in the treatment

of the more severe laryngeal sequelæ, aside from the arrest of the general progress of the disease, are the restoration of the voice and the resulting laryngeal stenosis. In short, we may say that all the sequelæ, other than permanent stenosis, must be met with the general principles of antisiphilitic treatment—namely, iodide of potassium and mercury, either alone or in combination. The condition of resulting stenosis must, in addition, receive mechanical means. It seems needless to refer to the efficacy of the time-honored use of the iodide in late syphilis, all of us knowing full well the brilliant results obtained; but there are undoubtedly certain instances where the combination of the two drugs is absolutely necessary, and some authorities maintain only the necessity of the mercurial treatment. This latter seems to be emphasized by the efficacy of the treatment of hereditary syphilis (which may be regarded as sequelæ) by the mercurial plan. In the *Revue hebdomadaire de laryngologie, d'otologie et de rhinologie* for February, 1896, M. Irsai gives a detailed account of the use and great benefit derived from the intramuscular injections of corrosive sublimate in severe forms of laryngeal syphilis, and relates a number of cases in substantiation. In the use of iodide it must be remembered that there occasionally happens in large dosage, and in susceptible patients, an aggravation of laryngeal symptoms. I have seen it determine redness of the larynx, dryness of secretion, and aphonia, where it has been given for syphilitic manifestations in other parts, principally in the pharynx.

The resulting chronic stenosis of the larynx, due to cicatricial contractions, distortions, indurated tissue, or whatever may be their nature, must be met by mechanical means in addition to the constitutional treatment. These two mechanical measures are tracheotomy and some form of dilatation or their combination. It is sometimes necessary to free weblike tissue and connecting bands before the latter measure can be thoroughly effected. Tracheotomy should be performed only where there is found to be an impassable barrier to the passage of the dilating instrument, or where the structure is of such a small calibre as to allow only of a very small breathing tube to be passed.

Before the introduction of the O'Dwyer method of intubation and the demonstration by it of the tolerance of the larynx to continued intralaryngeal pressure the treatment by the older methods of dilatation was extremely tedious and unsatisfactory. Intubation, by admitting of constant pressure, and at the same time allowing of free breathing while wearing the tube, overcomes this and gives us a rational method of treatment. The great objection to the Schroeter method, which is representative of the older means, was the necessity of a previous tracheotomy and the very transient and frequent introduction of the dilating instrument. The dense and unyielding nature of one class of stricture and the oft-times elasticity of cicatricial tissue are almost sure to recur immediately with anything but constant pres-

\* *Journal of Laryngology*, London, June, 1894; *Lancet*, London, June, 1894.

sure. There is unquestionably an absorptive process produced by constant pressure of the intubation tube in some conditions, while in other instances the constant wearing of the various-sized tubes produces an artificial canal through which the patient may breathe with much greater ease; it wears out in a great measure the recurring tendency, which has always been the great obstacle in the way of all previous measures. The increasing number of reported successes from all countries establishes, beyond doubt, the advantage of intubation in this class of cases, and of its general adoption.

It may be necessary in some cases to attempt some form of previous dilatation before the smallest-sized adult tube can be introduced, but these instances are rare, for if we are able to insert any instrument whatever, we can usually insert an intubation tube sufficient for breathing purposes. It is a well-demonstrated fact that one can breathe through an incredibly small space, provided it remains free and is constant in size. I saw a marked instance a short while ago in a patient whose pharynx and larynx had been reduced by cicatricial contraction to a small round aperture of about the size of an ordinary lead pencil, through which she both swallowed and breathed, and at the time I saw her there was but the slightest embarrassment with either function. Different portions of the larynx vary in their amenability to dilatation; the intracordal and subglottic spaces being the smallest regions of the larynx, and bounded by the restricting sides of the cricoid cartilage, allow of firmer pressure of the tube, while the supracordal region, being larger and more yielding, may necessitate the enlargement of the tube just below the head in order to exert better pressure at that point. The most difficult cases are those where intubation is resorted to in which a tracheotomy tube has been worn for a long while.

This arises from two causes: First, preventing the larynx from rising by its long inaction, so that in introducing the tube there is a greater distance to reach; and secondly, there is always an added stricture or a complete closure at the superior portion of the tracheotomy wound, which may require dilatation from below before the intubation tube may be successfully inserted.

Though the shape of the intubation tube for chronic stenosis to meet the average case is the same as those used for croup in children, being only larger for the adult, it may be necessary to modify both the shape and length to accommodate it for the given case in hand. It is also better to use the present form of probe-pointed tubes, as they enter a small stricture easier. It is necessary often to use considerable force in introducing the tube both to overcome the density of the stricture and any existing spasm. The length of time that a tube may be worn depends on the tolerance of the tube by the patient; this may vary from a day to several months. Metal tubes, as a rule, sink farther down in the larynx, and by their weight are generally better retained.

The act of deglutition while the tube is *in situ* be-

comes easier day by day. It may be necessary at first to have the patients swallow in the "Casselberry" position—*i. e.*, to swallow while on an inclined plane, head downward, or feeding in the beginning with a stomach tube. If possible, the tube should be introduced with the aid of a mirror in the same way as in making a laryngeal application, first cocaineizing the pharynx and larynx. After the point of the tube is seen to enter the stricture the mirror should be suddenly dropped and the forefinger of the mirror hand transferred to the head of the tube, making additional pressure while the introducer is being removed. It may be necessary in a long-standing case, in a tall patient, or where a tracheotomy tube has been worn, for an assistant to elevate the larynx externally; the mouth should be made as open as possible and the tongue well protruded. The string should remain in a few hours at least, at first, especially if the tube be of a small calibre, so that it may be easily withdrawn in the event of difficulty of breathing. In certain cases it may be necessary to etherize the patient, in which case the tube is inserted in the usual manner by the sense of touch. As a cautionary proceeding one should always be equipped to perform tracheotomy in the event of unsuccessful attempts at intubation in a serious case of obstruction. We must remember that cicatricial stenosis of the larynx is a serious condition in any event, fraught with many obstacles in the way of its relief, and any attempt toward its remedy must be tempered with a nicety of judgment and experience. And in conclusion, as far as intubation is concerned, I can not express my opinion as to its superiority over other measures better than by quoting the words of Dr. O'Dwyer, as I have done before—namely: "Had intubation of the larynx proved a complete failure in the treatment of croup, I should still feel amply repaid for the time and expense consumed in developing it, for I believe it offers the most rational and practical method yet devised for the dilatation of chronic stricture of the glottis."

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#### NOTES OF

#### TWO CASES OF LOOSE BODIES IN THE KNEE.

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The following cases of loose bodies in the knee joint have not heretofore been reported, and as they present some points of interest they may add something to the most instructive and interesting communication by Dr. Percy R. Bolton in the issue of the *Journal* of June 27th:

CASE I.—J. G., Irish, aged fifty years, was admitted to the South-side Hospital on March 19, 1895. On August 11, 1894, he was injured while working in a ditch. In some manner his left leg twisted under him and he



fell forward, striking upon his knee. This injury must have been quite severe, for he was removed to one of our hospitals, where he remained for some time (he does not remember how long), with a painful and swollen knee. He left this hospital before he fully recovered, and, after a period, although still lame, resumed work.

On October 24th of the same year, while working on a scaffold, about four feet from the ground, the scaffold fell and he again injured the same knee. From the receipt of the last injury until he entered the hospital, a period of nearly five months, his knee remained painful, and he was unable to do any work. By flexing the limb, and then suddenly extending it, he was able to demonstrate a moving body in the knee joint, on its inner side. On the next day he was anesthetized, the limb being already prepared, and an incision about two inches long was made over the joint below the inner margin of the patella. The extremity of the loose body was seized, and, on examination, it was found to be the posterior half of the internal semilunar cartilage, broken off at that part which is normally constricted, and loose excepting at its posterior extremity, where it was severed with the scissors.

The wound was closed by first uniting the incised synovial sac with a buried running suture of catgut, and the superficial incision with the same suture material. This was sealed with iodoform collodion, an antiseptic dressing applied, and the limb put up in plaster of Paris. At the end of ten days the dressings were removed, and the wound was found to be perfectly healed. In the meantime the temperature remained normal. The limb was kept in a plaster dressing for another ten days, and in less than a month the patient left the hospital.

CASE II.—S. B., negro, aged twenty-two years; admitted September 21, 1895. About three weeks ago, while running, he made a misstep and injured his left knee, since which time he has had pain in the knee joint, aggravated on attempting to walk. The circumference of the injured knee was half an inch more than that of the well knee. The synovial sac was distended with fluid sufficient to float the patella. On palpation, a loose body was detected on the inner side. The patient says the loose body has appeared since the injury. The limb was put up in a straight splint for a few days and iodine applied to the knee in order to reduce the more acute trouble. The steps of the operation in this case were identical with those in the first case. The body removed was ovoid, hard in the centre, as if an attempt at bony transformation was taking place, while around the periphery was a softer cartilaginous fringe. How much of an attachment, if any, this body had I am unable to state, for in making gentle traction in its removal it came away without any apparent resistance. The patient left the hospital in twenty-six days. The result in both cases was almost perfect.

These operations were performed without any difficulties, but no one should attempt an operation of the kind unless he understands thoroughly the technics, or, understanding it, is *sloppy* in its execution.

77 AND 79 SOUTH THIRTEENTH STREET.

**Dartmouth Medical College.**—Dr. William Thayer Smith, professor of physiology in Dartmouth Medical College, has been appointed dean of that institution to fill the vacancy caused by the death of Professor Carleton P. Frost. Professor Gilman D. Frost has been chosen secretary and treasurer.

## Therapeutical Notes.

**Valerianate of Creosote.**—Dr. E. Grawitz (*Therapeutische Monatshefte*, July, 1896; *Wiener klinische Rundschau*, August 23, 1896) has found this new preparation, which is a valerianic-acid ester of creosote, advantageous for the following reasons: 1. Being odorless and tasteless, it is readily taken. 2. Administered even in large doses, it seldom gives rise to digestive disturbances. 3. It is comparatively cheap. It comes in the form of gelatin capsules each containing about three grains. One capsule a day is enough to begin with, but the number may be increased until from six to nine are taken daily.

**Erysipelas of the Face.**—The *Presse médicale* for August 22d recommends the following formula:

℞ Carbolic acid,	
Tincture of iodine, { each . . . . .	30 grains;
Alcohol,	
Oil of turpentine . . . . .	60 "
Glycerin . . . . .	90 "

M.

The lesions are to be painted with this liniment every two hours, and covered with aseptic tarlatan.

**The Sweating of Phthisis.**—In the *Presse médicale* for August 22d we find the following formula for the sweating of phthisical patients:

℞ Sodium tellurate . . . . .	from 15 to 3 grains;
Alcohol . . . . .	750 "

M.

The dose is a teaspoonful every night and morning, in a little sweetened water.

**A Remedy for Obstinate Spasmodic Cough in Adults.**

—The *Revue internationale de médecine et de chirurgie* for August 25th attributes the following formula to Dr. J. B. Babcock:

℞ Bromoform . . . . .	113 grains;
Tincture of gelsemium sempervirens	120 "
Syrup of lactucarium . . . . .	975 "
Pulverized gum arabic . . . . .	q. s.

M.

From three to four teaspoonfuls a day may be taken.

**A Liniment for the Throat in Pharyngitis Sicca.**—

In the *Gazette hebdomadaire de médecine et de chirurgie* for August 20th we find the following formula:

℞ Glycerin . . . . .	450 grains;
Carbolic acid . . . . .	4 "
Tincture of aloes . . . . .	8 "
Tincture of iodine . . . . .	45 "
Wine of opium . . . . .	10 drops.

M.

**Antidiphtheritic Serum in the Treatment of Malignant Scarlatina.**—At a recent meeting of the Congrès français de médecine, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for August 27th, M. Fournier stated that he had had occasion to use this serum in the case of a young child who showed an angina during the course of grave scarlet fever. The case was almost hopeless at the moment the treatment was begun, but from the first injection the coma into which the child had sunk disappeared and the subsequent injections led to a rapid recovery. Since then M. Fournier has employed this treatment in five similar cases, with the most successful results, and he recommends it in all grave cases of scarlatina.

THE  
NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*

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FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, SEPTEMBER 19, 1896.

THE WOODEN PAVEMENT FROM A SANITARY  
POINT OF VIEW.

IN the *Lyon médical* for September 6th we find an important article on this subject by M. Rodet and M. Nicolas. They refer at first to analyses of old wooden paving-blocks made by M. Miquel, which they characterize as optimistic, and they conclude that the exceedingly favorable results arrived at by him are to be imputed to the fact that he examined the wood in a state of powder too coarse to show all the bacteria contained in it. They, on the other hand, subjected a fine powder to examination. Examining pine blocks that had been laid in Paris for several years, they found on the upper surface, after it had been washed, more than 50,000,000 microbes to the gramme (about fifteen grains); at a depth of a centimetre, 84,210; at a depth of three centimetres and a half, 43,100; and at a depth of five centimetres, 51,000. In a pine pavement taken up from a Lyons street in January, 1895, in foggy weather, after a number of frosts, that had been five years and a half in use and was highly impregnated with water, 79,360,000 microbes in the superficial portion, of which 96,000 were liquefactive; 489,600 at a depth of two centimetres, of which 1,600 were liquefactive; 116,800 at a depth of four centimetres, of which 400 were liquefactive; and 423,600 at a depth of six centimetres, of which 800 were liquefactive. In another pavement in the same street, taken up during a dry spell in March, 1895, they found at a depth of a centimetre and a half 2,361,600 microbes, of which 37,200 were liquefactive; at a depth of four centimetres, 250,800, of which 13,200 were liquefactive; at a depth of six centimetres, 63,600, of which 1,200 were liquefactive; and at a depth of eight centimetres, 110,400, of which 8,400 were liquefactive.

It follows that wet wooden paving blocks contain many more microbes than dry ones, and that it is especially in dry weather that the old pavements give off their microbes. In no instance did the authors find the *Bacillus coli* in the deep part of the pavement. Moreover, the micro-organisms found in the blocks proved almost innocuous when inoculated upon guinea-pigs. No more infective did the scrapings from the lower surface of the blocks prove. Nevertheless, the au-

thors consider their findings to be somewhat unfavorable to the use of wooden blocks for paving. The superficial portions of them, those that are most likely to give up their contents to the surrounding air, are abundantly impregnated with microbes, and they persist after the most careful washing.

SPLENIC EXTRACT IN THE TREATMENT OF  
CHLOROSIS.

IN the German market there is an extract of the ox's spleen known by the name of erythrol, which was first recommended as a therapeutical agent by Dr. Wilhelm Cohnstein. Dr. Max David, of Berlin, has had some experience in the use of it, and he relates it in the *Deutsche Medicinal-Zeitung* for August 27th. He has used it in two forms—that of fifteen-grain tablets coated with chocolate and that of the pure extract resembling Liebig's extract of beef in color and consistence. Dr. David premises that when he began to use these preparations in his practice he was prejudiced against them as he was against the many other proprietary panaceas, and he resolved to try them only in cases in which various preparations of iron, creosote, and the like had been resorted to with little or no effect.

He gives brief notes of six cases in which he has prescribed erythrol. The patients were four young women, a married woman, and a child ten years old. All the young women had dysmenorrhœa as an accompaniment of chlorosis. The extract was given in daily amounts of from half a teaspoonful to a teaspoonful, or the tablets were employed to the number of from two to three daily. The four young girls were much improved in the course of three or four weeks, if not cured, but the married woman and the child were not benefited.

The remedy proved to be of unexpected efficiency in overcoming dysmenorrhœa and in improving the appetite. The author admits that the number of his cases is too small to warrant his drawing general conclusions from them, but suggests that so far as they go they deserve consideration.

THE TOXINE TREATMENT OF MALIGNANT TUMORS.

IN the *Wiener medizinische Blätter* for August 27th we find an abstract of an account by Dr. Matagne, of Brussels, of his experience in the treatment of "inoperable" malignant tumors with Dr. Coley's erysipelas and *Bacillus prodigiosus* toxins, originally published in the *Gazette médicale de Liège*. He has employed the treatment in fourteen cases, and maintains that in one of

them a complete cure was accomplished. The patient was a man, sixty-four years old, who in January, 1895, first noticed something abnormal in his mouth. In February he consulted a physician, who diagnosed epithelioma and advised an operation, to which the patient did not consent. Many other physicians saw the patient, and they all concurred as to the diagnosis and urged the man to have an operation performed. Early in June the patient consulted Dr. Matagne. By this time he had a three-lobed tumor which occupied the floor of the mouth. The largest lobe was as large as a nut; in the left submaxillary region there was a gland as large as a small nut—the kind of nut is not specified in either instance—and under the chin there were two other glands of the size of a bean. The tumor was hard and ulcerating, but without suppuration, and lancinating pains proceeded from it toward the left ear. In a short time the symptoms were so marked that no observer had a doubt of the epitheliomatous nature of the growth. However, no histological examination of the neoplasm was made, for fear of opening a channel for secondary infection.

The treatment was begun on the 10th of June. Five centigrammes of the toxine were injected beneath the skin of the neck below the hyoid bone. In two hours the man's temperature was 101.3° F. On the 16th of June forty centigrammes were injected into the tumor, and hard swellings made their appearance in half an hour; the tongue remained quite swollen for two entire days. The highest temperature reached during the treatment was 105.8° F. During the whole febrile period the tumor diminished in size very decidedly, and the diminution kept on after the subsidence of the fever, so that by the beginning of September not a trace of the growth remained.

Another case was one of recurrent sarcoma of the neck in a woman seventy-eight years old. The tumor was as large as an egg and situated in front of the sterno-cleido-mastoid muscle. Another tumor, of the size of a hazelnut, was seated in the masseteric region, and two small but very hard glands were to be felt under the chin. After a course of treatment lasting three months and a half, the injections being given every second day, the large tumor had wholly disappeared and the one in the masseteric region could hardly be felt, but the enlarged glands had not undergone complete involution, when the treatment was accidentally interrupted. In six months after their discontinuance there was a moderate aggravation of the disease, and the patient was advised to submit to the injections again.

In a third case, one of recurrent sarcoma of the neck of the size of a fetal head, the patient was treated

with the toxines for three months, and the tumor had then shrunk to two thirds of its original size. The patient, out of patience with the long duration of the treatment, decided to call in a surgeon, who operated with a fatal result. In a case of recurrent sarcoma of the arm the injections checked the growth of the tumor only temporarily. In one of sarcoma of the pharynx no result was noted other than a brief restraint of the growth.

The sixth case was one of deeply ulcerated sarcoma of the neck in a very debilitated man, sixty-four years old, who died during the reaction following an injection of ten cubic centimetres of the toxines after the treatment had been carried on for five weeks. The tumor had diminished in volume a little. The seven other cases were all examples of epithelioma or carcinoma, and, save in two of these, the results were but very slight. In one of these two, a recurrent carcinoma of the breast, the injections seemed to check the growth of the tumor, for it remained stationary for several months; in the other, a uterine carcinoma, there was alleviation of the pain together with reduction of the size of the tumor, and the improvement lasted for four months.

Such results as Dr. Matagne has reported certainly ought to encourage Dr. Coley to persevere in his labors. It is evident, we think, that the toxine treatment is of some value, more particularly in cases of sarcoma; the problem is to ascertain the class of cases in which it holds out a distinct promise of proving decidedly palliative if not curative.

### MINOR PARAGRAPHS.

#### THE FIFTIETH ANNIVERSARY OF THE INTRODUCTION OF ANESTHESIA.

INTERESTING ceremonies may be expected to take place in the Massachusetts General Hospital, in Boston, on the 16th of October, in commemoration of the fiftieth anniversary of Morton's first public demonstration of surgical anesthesia, which was made in the operating theatre of that hospital on October 16, 1846.

#### HEMORRHAGIC CONTRACTURAL MYXODERMIA.

This seems to be the equivalent of a French name given by M. Brun (*Bulletin de l'Académie de Médecine*, 1893, No. 19) (*Procès-verbal pour l'année Médicale*, September 5, 1893) to a disease which sets in suddenly with high fever, malaise, vomiting, and headache, followed by delirium and restlessness. The fever continues for about eight days with the temperature ranging from 102° to 104° F., and then, with remissions, a second and a third febrile period occur. There are contractures of the most varied groups of muscles; there is a peculiar doughy condition of the skin, and there are subcutaneous hemorrhages. There is no meteorism or roseola. The disease lasts



from three to four weeks. The nature of this manifestly infectious disease is not yet understood.

#### THE CHARLOTTE MEDICAL JOURNAL.

The editors of this North Carolina monthly journal, Dr. Register and Dr. Montgomery, are much to be commended for having brought it to a high station among the medical journals of the country. Each number contains a great amount of matter of good quality. We are glad to learn that it is meeting with the appreciation it merits.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 15, 1896:

DISEASES.	Week ending Sept. 8.		Week ending Sept. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	35	6	44	14
Scarlet fever.....	22	3	27	2
Cerebro spinal meningitis....	0	0	3	4
Measles.....	24	3	42	5
Diphtheria.....	132	27	121	33
Tuberculosis.....	151	83	185	111

**The Castration of Criminals.**—We emphatically indorse the following, which appeared in the *Medical Record* for September 12th:

"In a paper entitled *The Crimes of Medical Men*, in the *Medical Herald* for June, 1896, Dr. W. O. Henry mentions as one of the crimes of which some, no doubt many, of us are guilty is a failure to urge legislation to prevent the marriage of criminals, or to have them castrated. Whether we are to regard such a failure as wrong or not must depend entirely upon whether or not we think the 'proposed remedy is one that will the most surely prevent crime.'

"As to forbidding marriage, most persons of the class referred to are married before they become confirmed drunkards or are known as habitual criminals; moreover, it is by no means certain that they would procreate less if they were not married and had their liberty.

"Castration of the 'rapist' might fit in with the sense of justice as well as with that of retaliation of most people, but if the community should reach the conclusion that drunkards and criminals should not leave descendants, it would seem that an effectual means to that end could be found aside from depriving them of organs which are so important as to be characteristic of sex, and which, it is more than likely, are essential in some respects to normal mind and physical health. And then, who shall say that the drunkard and the criminal have fallen so low that they ought, as a result of mutilation, to be deprived forever of the possibility of redemption through woman's purifying influence? The reason for making a general law condemning these unfortunate to castration is suggested solely by judgment based presumably upon facts, but the facts are not all in, or are too uncertain in their application to assure a whole profession that the judgment is final. But if it were proved that procreation by these persons is so baneful to society as to justify steps effectually to stop it, the end could be reached simply by such restraints as would prevent the sexual relation, while incidentally the criminal would be made to forego his crimes and the drunk and his debaucheries. Then, in the event of a mistake having been made by the community, it would not be impossible to undo the injury."

**An Illustrated Lecture on Roentgen Rays.**—On Friday evening, September 25th, a lecture will be given, in Association Hall, Fourth Avenue and Twenty-third Street, by Mr. Max Osterberg, E. E., A. M., on *The Possibilities and Limitations of the Röntgen Rays*. Mr. Osterberg, who is

well known as an electrical expert, is the instructor in the evening class in electrical engineering at the Twenty-third Street Branch of the Young Men's Christian Association, and has kindly volunteered his services for this lecture. The proceeds will be devoted to securing apparatus with which to illustrate the instruction in the class-room. Besides exhibiting and explaining the Röntgen-ray apparatus, Mr. Osterberg will illustrate his lecture throughout with a stereopticon lantern. The price of admission will be fifty cents. Tickets may now be secured at the office of the Young Men's Christian Association, No. 52 East Twenty-third Street.

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 15th inst., the following papers were read: *Acute Aortitis*, by Dr. De Lancey Rochester, and *Interstitial Pancreatitis*, by Dr. H. G. Metzinger. Specimens were exhibited by Dr. Eugene A. Smith and Dr. Chauncey P. Smith.

**Erratum.**—An esteemed correspondent calls our attention to a manifest error in a therapeutical note on *duboisine* published in our last issue, on page 363. From a quarter to a third of Pravaz syringeful of a forty-per-cent. solution is given as the dose. As our correspondent suggests, the mistake is so palpable as to deprive it of danger.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 6 to September 12, 1896:*

The following named officers will report in person on Tuesday, September 22d, at 10 o'clock A. M., to ALDEN, CHARLES H., Colonel and Assistant Surgeon General, president of the examining board appointed to meet at the office of the Surgeon General, United States Army, for examination as to their fitness for promotion: APPEL, AARON H., Captain and Assistant Surgeon; BANISTER, JOHN M., Captain and Assistant Surgeon; BRECHEMIN, LOUIS, Captain and Assistant Surgeon; DAVIS, WILLIAM B., Captain and Assistant Surgeon; GRAY, WILLIAM W., Captain and Assistant Surgeon; LA GARDE, LOUIS A., Captain and Assistant Surgeon. LA GARDE, LOUIS A., Captain and Assistant Surgeon, is relieved from duty as attending surgeon and examiner of recruits at Boston, to take effect upon the completion of his examination, and ordered to Fort Robinson, Nebraska, for duty.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 12, 1896:*

STOKES, C. F., Passed Assistant Surgeon. Orders of July 21st modified: detached from duty as member of the naval and medical examining boards, New York, and ordered to continue as recorder.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Sixteen Days ending August 31, 1896:*

BAILHACHE, P. H., Surgeon. Detailed to represent the service at the meeting of the American Public Health Association, August 24, 1896.

PURVANCE, GEORGE, Surgeon. Relieved from duty at Philadelphia, Pa., and directed to proceed to St. Louis, Mo., and assume command of service. August 25, 1896.

HAMILTON, J. B., Surgeon. When relieved from duty at Chicago, Ill., to proceed to San Francisco, Cal., and assume command of service. August 25, 1896.

GASSAWAY, J. M., Surgeon. Granted leave of absence for thirty days from October 1, 1896. August 24, 1896.

GODFREY, JOHN, Surgeon. When relieved from duty at San Francisco, Cal., to proceed to Chicago, Ill., and assume command of service. August 25, 1896.

WHEELER, W. A., Surgeon. When relieved from duty at Ellis Island, New York, to proceed to Cincinnati, Ohio, and assume command of service. August 25, 1896.

BANKS, C. E., Surgeon. To proceed from Washington, D. C., to Boston, Mass., for temporary duty. August 21, 1896.

CARMICHAEL, D. A., Passed Assistant Surgeon. Granted leave of absence for thirty days from September 5, 1896. August 17, 1896.

WASDIN, EUGENE, Passed Assistant Surgeon. Granted leave of absence for five days. August 25, 1896.

BROOKS, S. D., Passed Assistant Surgeon. Directed to rejoin station at St. Louis, Mo., and when relieved from duty at that place to proceed to Port Townsend, Washington, and assume command of service. August 25, 1896.

WHITE, J. H., Passed Assistant Surgeon. Relieved from special duty at Key West, Fla., and directed to rejoin station at New York, N. Y. August 24, 1896. Detailed for duty in connection with immigration service at Ellis Island, N. Y. August 25, 1896.

CARRINGTON, P. M., Passed Assistant Surgeon. To proceed to Chicago, Ill., and assume temporary command of service. August 25, 1896.

KINYOUN, J. J., Passed Assistant Surgeon. Detailed to represent the service at the meeting of the American Public Health Association. August 24, 1896.

PERRY, T. B., Passed Assistant Surgeon. Detailed to represent the service at the meeting of the American Public Health Association. August 24, 1896.

VAUGHAN, G. T., Passed Assistant Surgeon. Detailed for duty in connection with immigration service at Philadelphia, Pa. August 25, 1896.

COBB, J. O., Passed Assistant Surgeon. When relieved from duty at Cincinnati, Ohio, to proceed to New York, N. Y., for duty. August 25, 1896.

STIMPSON, W. G., Passed Assistant Surgeon. Relieved from command of service at Port Townsend, Washington, on arrival of Passed Assistant Surgeon S. D. Brooks. August 25, 1896.

SPRAGUE, E. K., Assistant Surgeon. When relieved from duty at New York, N. Y., to rejoin his station at Boston, Mass. August 27, 1896.

CUMMING, H. S., Assistant Surgeon. When relieved from duty at Norfolk, Va., to proceed to Evansville, Ind., for temporary duty. August 25, 1896.

GREENE, J. B., Assistant Surgeon. To proceed from Baltimore, Md., to Cleveland, Ohio, for temporary duty; upon completion of which to rejoin station. August 25, 1896.

#### Society Meetings for the Coming Week:

MONDAY, *September 21st*: New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Connecticut, Medical Society; Chicago Medical Society; Cleveland Society of the Medical Sciences.

TUESDAY, *September 22d*: American Association of Obstetricians and Gynecologists (first day)—Richmond, Virginia); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Medical Society of the County of Lewis (quarterly), N. Y.; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *September 23d*: American Association of Obstetricians and Gynecologists (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

THURSDAY, *September 24th*: American Association of Obstetricians and Gynecologists (third day); New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopedic Society; Brooklyn Pathological Society; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational).

FRIDAY, *September 25th*: American Academy of Railway Surgeons (first day—Chicago); New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia

Laryngological Society; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society. SATURDAY, *September 26th*: American Academy of Railway Surgeons (second day); St. Louis Medical Society.

#### Answers to Correspondents:

No. 471.—It is proper to write either *Röntgen* or *Roentgen*. The word is accented on the first syllable; the *o* in *oer* has the sound of the *o* in *her*, and the second syllable is pronounced *gen*.

### Births, Marriages, and Deaths.

#### Married.

BISCHOF—BALTZ.—In Buffalo, on Wednesday, September 9th, Dr. Henry Bischof and Miss Hattie Baltz.

BOUYER—RICHARDSON.—In Pensacola, Florida, on Wednesday, September 9th, Mr. André Bouvier and Miss Ella Richardson, daughter of Dr. W. Richardson, of Jeanerette, Louisiana.

LOMAX—SWEET.—In New Baltimore, N. Y., on Thursday, September 17th, Dr. Howard E. Lomax and Miss Jennie A. Sweet, daughter of the Hon. Newton Sweet.

PIERCE—MILLER.—In Chester, N. Y., on Wednesday, September 9th, Dr. Louis R. Pierce, of Newburgh, N. Y., and Miss Mary S. Miller.

RITTER—HOLLAND.—In Kansas City, Missouri, on Tuesday, September 15th, Dr. Caleb Anderson Ritter and Miss Mary Helen Holland.

#### Died.

ALDRICH.—In Fall River, Massachusetts, on Tuesday, September 8th, Dr. James M. Aldrich, aged seventy-nine years.

FIFIELD.—In Dorchester, Massachusetts, on Wednesday, September 9th, Dr. W. C. B. Fifield, aged sixty-eight years.

LEE.—In Summerville, South Carolina, on Wednesday, September 9th, Dr. H. B. Lee.

MULFORD.—In New York, on Wednesday, September 9th, Dr. Sylvanus S. Mulford, aged sixty-six years.

### Obituaries.

#### WILLIAM M. McLAURY, M. D.

DR. McLAURY was born in North Kortright, Delaware County, New York, on August 22, 1830. His ancestors, Scotch-Irish, settled in New York State in 1765. He received an academic education and came to New York in 1853, taught school and studied medicine, graduating from the University of the City of New York in March, 1860. His skill and devotion to his profession soon acquired for him a large and lucrative practice. In his success he never forgot the poor. His kindly disposition, his warm heart, and the interest he took in all who were suffering endeared him to those who came in contact with him, whether as friends, acquaintances, or patients. His writings on medical and ethical subjects have attracted wide and favorable mention. He was a member of the New York County Medical Society, the Academy of Medicine, the Northwestern Medical and Surgical Society, and the New York Physicians' Mutual Aid Association. He leaves a widow, one son, Dr. Frank H. McLaury, and a daughter.



## Proceedings of Societies.

### AMERICAN GYNÆCOLOGICAL SOCIETY.

*Twenty-first Annual Meeting, held in New York, on Tuesday, Wednesday, and Thursday, May 26, 27, and 28, 1896.*

The President, Dr. WILLIAM M. POLK, of New York, in the Chair.

*(Continued from page 169.)*

**Suspensio Uteri with Reference to its Influence upon Pregnancy and Labor.**—In the discussion of Dr. Noble's paper on this subject, Dr. T. A. EMMET, of New York, said that, as he had recognized at the outset that Alexander's operation prolapsed the uterus at the same time that it anteverted it, he had never done the operation, and, as he had been able to relieve all his patients by plastic surgery, he had seen no occasion for either Alexander's operation or *suspensio uteri*.

Dr. G. M. EDEBOHLS, of New York, said that experience had shown that the only effect of Alexander's operation on subsequent pregnancies was to cause a slight dragging pain near the termination of pregnancy. Although vaginal fixation was a young operation, it had already caused an appalling list of complications of subsequent labors. Ventral fixation occupied a position between the two, although a number of disasters in connection with parturition had been reported after it. In his own experience there had been eight pregnancies after ventral fixation, and two deaths, but one of these deaths had occurred just before the onset of labor, and the second was in no way due to the ventral fixation. The lower the attachment and the more secure it was, the better the gynæcological result, but the worse the results in case of the occurrence of pregnancy. Probably the best method of attachment was to secure it squarely by the fundus in a position in which the uterus would naturally rest without dragging on the lower attachment.

Dr. H. A. KELLY, of Baltimore, said that he had been able to secure reports from forty-six married women upon whom he had performed this operation. Among them there had been thirteen pregnancies, and in only one had the labor been at all difficult. This was one of his early cases, and as a result of sloughing very extensive and firm adhesions had formed between the uterus and the abdominal wall. The method which he had originally described, and which he had successfully followed in about two hundred and fifty operations, seemed to him the best. His method was to pass two silk sutures through the peritoneum and through the uterus just posterior to the ridge on the top of the fundus. He had fixed the uterus in his cases both low and posteriorly, and yet, contrary to what Dr. Edebohls had stated, the fixation had been firm and the results satisfactory.

Dr. A. LAPHORN SMITH, of Montreal, said that out of fifty cases in which he had performed the operation according to Kelly's method, the only difficulty in subsequent pregnancy had been one abortion at the fifth month. He thought it was well not to use too coarse a suture, and to follow Kelly's suggestion of not taking in too much of the abdominal wall. In some cases he had done ventral fixation where there were firm adhesions and extensive disease of the appendages, and had relieved these women of the pain from which they had long suffered, simply by elevating the ovaries and tubes to their proper level.

Dr. ASHURON thought that the statistics collected regarding the obstetrical relations of the operation of *suspensio uteri* were of but little value, owing to the fact that they took no cognizance of the different modifications of procedure, and hence ignored the very important factor of the degree of fixation of the uterus. Our aim should be not only to suspend the uterus, but to tilt it a little forward, and this could only be done by taking advantage of the peritoneal attachment of the new adhesions. In two cases in which he had had occasion to perform abdominal section subsequent to the operation of *suspensio uteri*, he had found the uterus united to the abdominal wall only by a slender band of adhesion about two inches in length. Such a long adhesion would be formed where the suture was passed through the peritoneum. He had not seen these cases of retrodisplacement cured, as Dr. Emmet had, by plastic surgery and the use of pessaries.

Dr. HENRY D. FRY, of Washington, said that not long ago he had seen a woman, about five months pregnant, upon whom ventral fixation had been performed nearly four months previously. He had ascertained that she had gone through the rest of her pregnancy and her labor without trouble, and had been delivered of a child weighing six pounds and a half. He had himself recently performed ventral fixation on a woman, ten weeks pregnant, to liberate an incarcerated uterus. It seemed to him that in estimating the influence of this operation on subsequent labors we should take into consideration the interval between the ventral fixation and the occurrence of conception. Obviously, there would be less chance of interference with parturition if sufficient time had elapsed to allow of the formation of a long and slender adhesion between the uterus and the abdominal wall.

**The Diagnosis and Treatment of Ureteritis in Women.**—Dr. EDWARD P. REYNOLDS, of Boston, read a paper on this subject. He said that the physical signs of ureteritis were very poorly defined and were consequently often overlooked. The two most characteristic symptoms of ureteritis were: 1. Frequency of micturition, increased by the erect posture; 2. a bearing-down pain, increased by standing, but usually completely relieved by a few hours of rest in bed. These symptoms, of course, might result from other causes, but the combination of them pointed very strongly to this affection. The physical signs elicited by vaginal examination were tenderness and a desire to urinate when pressure was made over the vaginal portion of the ureter. Cystoscopic examination would show alteration of the vesical orifice of the ureters. The appearance of the vesical orifice of the inflamed ureter varied from a slight redness and gaping to a decided eversion of the mucous membrane. The adjacent vesical mucous membrane was often reddened and eroded. In eight cases of ureteritis in which he had catheterized both ureters the percentage of urea had in every case been decreased in the urine obtained from the affected side. Of course, these observations were yet too few to admit of any definite conclusions, but the point seemed to him worthy of note. The treatment was palliative and curative. In cases in which the vesical mucous membrane and the ureteral orifice were inflamed, he had always given relief by strictly localized applications of the solid nitrate of silver to the inflamed areas. The relief so obtained was, of course, only symptomatic and temporary. In the curative treatment of ureteritis, we were forced to rely upon regulation of the diet. The patient should



be made to take three or four pints of bland water, and this might be supplemented by an alkaline diuretic. Asparagus and strawberries should be absolutely interdicted. Other fruits should be used sparingly, and the highly flavored vegetables, such as onions, should be tried cautiously. He said that he had seen but little benefit from the use of other drugs than alkalies until he had discovered that the urine from the affected ureter was deficient in urea. This fact had led him to think that probably the renal insufficiency was due rather to a deficiency in the metabolism of the body as a whole than to a defect in the kidneys themselves. Under such circumstances, it was probable that the urine contained some irritant. Small doses of iodide of potassium and mercury having been recommended last year by Dr. Etheridge in renal insufficiency, he had tried this treatment in ureteritis, and had so far been greatly pleased with the results. He believed that ureteritis was often mistaken for intestinal colic, the pain due to renal stone, or acute catarrhal salpingitis. The abdominal pain was often quite severe and was usually intermittent. At the beginning of the attack there would be renal tenderness on deep pressure, and later on it would be very distinctly located at McBurney's point. Still later a new spot of tenderness would be found at a point about an inch above Poupart's ligament. From this time on, vaginal examination would reveal the characteristic tenderness and usually a distinct swelling of the vesical end of the ureter. The affection tended toward recovery.

**Implantation of the Ureter in the Bladder.**—Dr. H. J. BOLDT, of New York, read a paper on this subject. He said that if, after a pelvic operation, ischuria, colicky pain, and tenderness over one kidney were present, a cystoscopic examination should be made. On the insertion of the ureteral catheters, no urine will flow from that ureter that had been wounded or occluded by a ligature or clamp. If during an operation it was discovered that the ureter had been injured, a ligature should be immediately applied to the distal end and the proximal end implanted in the bladder. The method of implantation which he recommended was to be performed as follows: A ureteral catheter having been inserted into the injured ureter, the bladder was temporarily distended with sterile water to facilitate the selection of the spot for the implantation, and an incision about an inch long was made into the bladder. As the knife touched the mucosa, the water in the bladder was allowed to escape by means of a catheter. A long dressing forceps was then introduced through the urethra and out through the artificial opening in the bladder, where it seized the ureteral catheter and drew it back into the bladder and out of the urethra. The ureter was next invaginated through the bladder wound, and several very fine silk sutures were passed quite superficially through the ureter, but through the bladder wall with the exception of the mucosa. After the abdomen had been closed, a permanent catheter was allowed to remain in the urethra alongside of the ureteral catheter, so as to keep the bladder empty. After forty-eight hours the ureteral catheter should be removed. Where it was impossible to do an implantation, nephrectomy might be done as a last resort.

Dr. M. D. MANN, of Buffalo, said that the difference in the urea excreted in the two ureters in cases of ureteritis might perhaps be explained by reflex action. That the irritation of the bladder around the mouths of the ureters was the cause of the symptoms had been exam-

plified in one of his cases, in which there had been an extensive ureteritis with absolutely no symptoms of vesical irritation. He had found that the treatment of the inflammation of the trigone and of the region around the ureteral orifices by applications of nitrate of silver gave more relief than anything else. He was afraid to irrigate the ureter, for there was great danger of causing infection or traumatism. While chronic ureteritis was much more commonly met with than the acute form, the latter was sometimes observed, more especially after labor. The acute cases coming on as a result of lithemia were often overlooked. He had become convinced that much of the pelvic pain experienced by women was due to irritation set up by the passage of abnormal and irritating urine through the ureters. Some of the most obstinate cases could be cured by plenty of exercise, proper habits of life, and the ingestion of large quantities of water.

Dr. E. P. DAVIS, of Philadelphia, remarked that he had found certain abnormal conditions of urine in women prove very obstinate under treatment until he had discovered that they had been kept up by the habit of chewing tea leaves.

Dr. A. LAPHORN SMITH said that he looked upon ureteritis as a local disease dependent upon an abnormal condition of the urine. Our treatment should be directed to the prevention of the formation of such irritating products of deficient oxygenation as uric acid and oxalic acid. The urine should be made alkaline and bland by the free use of water and alkalies, the diet should be properly restricted, and plenty of exercise enjoined.

Dr. REYNOLDS said that there was great danger of making false passages by attempts at exploring the ureters with rigid instruments. The administration of small doses of mercury he had found of the greatest benefit in those rare cases of uræmia in pregnancy in which the urine was abundant and of low specific gravity. He believed that we should eventually learn that ureteritis was secondary, usually to some disturbance of the kidney.

**Intestinal Bacteria as a Source of Infection Complicating Obstetric Operations.**—Dr. EDWARD P. DAVIS, of Philadelphia, reported two cases of fatal ptomaine poisoning due to intestinal bacteria. The first was that of a girl of twenty-one years who, after labor, had typhinites, vomiting, and high temperature, and died after five or six days. The autopsy showed numerous intestinal ulcers swarming with the colon bacillus and the *Micrococcus pyogenes albus*. There was no evidence of sepsis. The second case also occurred in a young girl who, immediately after labor, had a high temperature and a rapid pulse, without chill, and who afterward became maniacal. The use of the curette and of antiseptic douches did not affect the symptoms. The autopsy showed an abnormal loop of the large intestine full of inspissated feces, and evidently the source of the infection. He said that Dr. Bevan had found, on searching the records of three hundred autopsies, that such a loop of bowel had been noted in eighteen cases. In fourteen of these there had been a history of insanity; two of the patients committed suicide and two were unconscious at the time of their death.

Dr. ROBERT A. MURRAY, of New York, reported several cases apparently bearing out the view that occasionally fatal infection might result from absorption of the products of intestinal bacteria. He thought the best antiseptic cathartic was calomel.

Dr. GRANDIN, of New York, was afraid that this paper might lead some to rest satisfied with the diagnosis of intestinal infection and toxæmia when in reality the condition was one of puerperal sepsis. These cases certainly emphasized the importance of keeping the gravid woman under medical supervision from the very beginning of pregnancy up to the time of labor.

Dr. CUSHING, of Boston, said that the symptoms presented in the cases reported in the paper were those which had long been recognized by abdominal surgeons as indicative of intestinal toxæmia—indeed, this had led to the treatment of supposed septic peritonitis by saline purgatives.

Dr. DAVIS said that he had based the diagnosis on the comparatively low temperature, the very high pulse, the absence of chill, and the fact that the milk came in properly and the patient retained her appetite. For quickly rendering the intestine aseptic, perhaps the best treatment was the administration of one two-hundredth of a grain of bichloride of mercury several times a day for a number of days, and following this by saline purgatives.

**The Treatment of Intraligamentous and Retroperitoneal Uterine Fibromyomata.**—Dr. WILLIAM H. WATHEN, of Louisville, said that whenever it was possible he removed small tumors through the vagina, enucleating them from the broad ligament or the uterine wall, without removing the appendages. In the special class of tumors forming the subject of his paper he advised separating the vagina from the cervix, ligating or clamping the uterine arteries, if possible in continuity near the pelvic wall. The lower part of the uterus might then be separated from its attachments, after which the operation could be completed through the abdomen. The adhesions having been separated, the ovarian arteries should be ligated close to the pelvic wall, thereby practically cutting off all the blood supply to the uterus or tumors. The capsule should be sutured in the lower part of the abdominal wound and the incision closed above. Ordinarily there would be no sutures or ligatures left in the peritoneal cavity, except the two on the ovarian arteries. The same method might be followed in the removal of other forms of uterine myomata.

Dr. CUSHING said that when the tumors developed behind the peritonæum and under the broad ligament it was usually because they had their origin in the cervix, and hence they might be below the uterine arteries. He thought that by simply splitting the capsule of such tumors, they could usually be enucleated readily.

Dr. P. A. HARRIS, of Philadelphia, regretted that he had not known of this valuable method some time ago while engaged in operating on a difficult case of this kind.

Dr. GORDON, of Portland, Maine, said that he was in the habit of doing the vaginal operation first and ligating the uterine arteries, and then completing the operation through the abdomen.

Dr. J. T. JOHNSON, of Washington, suggested that a lateral flap could be made, and so allow the dangerous adhesions to slip away. We could then close the wound by a continuous suture.

The PRESIDENT said that these intraligamentous growths laid bare the origin of the uterine, vesical, and vaginal arteries. By securing the anterior trunk of the internal iliac, by the method employed in the old operation for aneurysm of the internal iliac artery, it was easy to control the blood supply to the field of operation. Experience after ligation of this artery for aneurysm, and

the knowledge of the free collateral circulation established through the middle hæmorrhoidal artery were a sufficient guarantee of the safety of thus cutting off such a large supply of blood at one time.

Dr. WATHEN said that he had referred to the ligation of the uterine arteries *per vaginam*, and had suggested that the ligation should be near the origin of the arteries.

**Cæsarean Section; Suture of the Uterus versus Total Extirpation.**—Dr. HENRY C. COE, of New York, in a paper with this title, said that it was his purpose to extend the indications originally laid down for the Porro operation, in strict accordance with the teachings of modern surgery. He had felt that the three cases of Cæsarean section already reported by him, although surgically successful, had been of doubtful benefit to the patients, because of the preservation of the uterus. He then reported an additional case in which, owing to the condition of the mother, he had believed it to be imperative to complete the operation as rapidly as possible and had, therefore, chosen total extirpation of the uterus. In connection with this case, it seemed to him that while it was most desirable to preserve the functions of menstruation and ovulation whenever possible, it should be remembered that the uterus and annexa were often sacrificed in cases of fibroids, where there was a far less menace to life than a second pregnancy was in a woman in whom there was an absolute impediment to natural delivery. To avoid another pregnancy, one could ligate the tubes or remove the annexa, but experience had demonstrated that nothing short of extirpation of the uterus afforded positive immunity from future impregnation.

Dr. GRANDIN said that where the uterus was infected or contained fibroids we were justified in performing hysterectomy, but beyond this he could not go. In his opinion, it was not the business of the medical man to look into the future and ligate the tubes or extirpate the uterus because at some future time the woman might become pregnant.

Dr. GEORGE T. HARRISON, of New York, said it did not seem to him right to remove healthy tubes and ovaries because of possible future complications, but where there was a probability that the uterus had been infected hysterectomy was proper.

Dr. NOBLE thought most of those present would agree that hysterectomy was proper where the uterus was infected or where there were so many fibroids that it did not seem probable that myomectomy could be done at another time. He could not agree with the reader of the paper that it was our business to remove the appendages simply because the patient could not have a baby in the natural way.

Dr. R. A. MURRAY was of the opinion that this ethical question did not concern the physician, and that therefore he should not attempt to decide it. He would favor doing a Cæsarean section and a subsequent operation for fibroids or other disease, if such should be required. If it could be demonstrated that infection had already occurred at the time of the Cæsarean section, then the uterus should be removed by all means.

Dr. HARRIS thought it was too radical to assume that because the woman had not had the best of care at first one must remove the uterus to anticipate sepsis.

Dr. DAVIS held it to be the right of a woman who was in a condition rendering natural delivery impossible to say to the obstetrician that, if the risk was no greater from stopping procreation than from refraining from



doing so, procreation should be stopped. He believed that under such circumstances it was the duty of the obstetrician to give the patient the power of volition.

Dr. H. J. BOLDR said that if the patient had not stated her desire in the matter, he would remove the uterus entirely, particularly if fibroids were also present.

Dr. H. J. GARRIGUES, of New York, protested that women had not the right to ask to be made sterile. This must be left to Nature or to God, but certainly not to the physician. Where the mother was in an advanced stage of tuberculosis, it seemed to him that the child's right should be considered, and that we should save children as far as possible from such a maternity.

Dr. COE said that he had not intended to convey the impression that he would remove the uterus recklessly and without the patient's consent, just as many some years ago had removed the ovaries; but he did think that in these operations we must look into the future, particularly in cases of illegitimate pregnancy occurring in miserable, ignorant, and sickly mothers.

#### **Drainage of the Stump in Abdominal Hysterectomy.**

—Dr. HENRY T. BYFORD, of Chicago, reported sixty-eight cases in which he had provided drainage through the vagina in various ways. Three of these patients only had died, and he was of the opinion that had he not established this drainage there would have been in this series at least twice as many deaths.

Dr. NOBLE said that his experience, both with and without drainage, would lead him to believe that the drainage so carefully provided by Dr. Byford was unnecessary.

**Myomectomy; Fatal Secondary Hæmorrhage with Rising Temperature.**—Dr. HENRY D. FRY, of Washington, reported a case of myomectomy in which he had been led away from the correct diagnosis of internal hæmorrhage by the elevation of temperature. The hæmorrhage had lasted for twenty hours before it had proved fatal, but following the teachings of the text-books he had looked for a subnormal temperature under such circumstances. At the autopsy the peritoneal cavity was found filled with blood and without evidence of sepsis or other complication.

Dr. GRANDIN took the ground that the pulse was a much better guide than the temperature to the occurrence of hæmorrhage, as it was also to that of sepsis. A very rapid fall of temperature, associated with increasing rapidity of the pulse, should be taken as an indication of intra-abdominal hæmorrhage.

Dr. J. M. BALDY, of Philadelphia, expressed the same opinion, and added that when the temperature was subnormal in a case of severe hæmorrhage death was imminent.

Dr. A. LAPHORN SMITH thought that the best sign we had of internal hæmorrhage was a *sudden* increase in the pulse rate.

Dr. DR. BOISE, of Grand Rapids, said that when there was a gradual hæmorrhage into the peritoneal cavity the effort of the peritonæum to dispose of the effused blood was usually indicated by an elevation of the temperature.

Dr. DAVIS said that the temperature elevation might be explained in this way or by the existence of a slight adhesive peritonitis. In abdominal sepsis the pulse was apt to fall and the temperature to rise, whereas in gradual internal hæmorrhage there was a gradual rise of both temperature and pulse.

**An Electrode for burning off Ligatures.**—Dr. CLEMENT CLEVELAND, of New York, exhibited a small platinum-loop electrode which he had found useful in liberat-

ing the ligatures after vaginal hysterectomy. One such electrode was tied in with the ligature, and when it was desired to remove the latter it was only necessary to pass an electric current through the electrode.

**Surgical Injuries of the Ureter.**—Dr. J. MONTGOMERY BALDY, of Philadelphia, in a paper on this subject, said that uretero-ureteral anastomosis was only suitable in a small proportion of cases, and the danger of immediate obstruction seemed very great. Should stenosis occur subsequently it would be more easily detected and treated after uretero-cystostomy—indeed, all the evidence seemed to be rather in favor of uretero-cystostomy in preference to uretero-ureteral anastomosis.

Dr. BACHE McE. EMMET, of New York, thought there would be in all cases great risk of infection of the kidneys, and that this danger would be greatly enhanced where there was cystitis. Whether the anastomosis was made at the bladder or along the line of the ureter, he could not but feel that there would be a backward pressure, and consequently a danger of establishing nephritis.

Dr. BYFORD was of the opinion that the attachment of the ureter to the bladder would be apt to interfere with the contraction of this viscus. If the method of lateral anastomosis described by Kelly proved to be as successful as the other operations mentioned, he thought it should be given the preference.

### COLLEGE OF PHYSICIANS OF PHILADELPHIA.

#### SECTION IN OPHTHALMOLOGY.

*Meeting of March 17, 1896.*

The Chairman, Dr. WILLIAM F. NORRIS, presiding.

**Traumatic Enophthalmia.**—Dr. GEORGE C. HARLAN exhibited a five-year-old boy who five months previously had been wounded by the horn of a bull. The right cheek and temple and the lower eyelid were lacerated, and the inferior margin of the orbit was chipped. There was also complete ptosis. At the time of examination, the tendo oculi was found to have been torn away and the lower lid was dragged downward and outward by the action of the orbicularis and the contraction of the cicatrix.

The surgeon who attended the patient at the time of the accident reported that there was considerable orbital cellulitis with abundant discharge of pus from between the lids, but there never was any exophthalmia. He thought that the cellulitis was confined to the lower part of the orbit. At present the eyeball was retracted and had the appearance of being very much smaller than its fellow. The cornea was situated five millimetres behind the plane of that of the other eye. There was scarcely more ptosis than would result from the depression and loss of support of the lid. When the patient looked directly forward, the palpebral fissure was five or six millimetres wide. He insisted that he saw well with the eye. Though the movements of the eyeball were much restricted, no diplopia could be detected. There was complete inability to look upward beyond the horizontal line either directly or to the right or left. Horizontal movements were normal and the downward excursion was much exaggerated.

Dr. GEORGE FRIBUS spoke of his case of traumatic enophthalmia seen nine years ago, in which there had been sufficient recovery to manifest but little difference between the two eyes; there was nothing left except a



slight doubling of objects when looked at below the horizontal line. In his case there was no incarceration of the extra-ocular muscles.

**Unicocular Retinal Detachment with High Myopia.**—Dr. FRANCIS M. PERKINS presented a case.

**Ciliary Staphyloma and Excavation of the Optic Disc following Traumatic Cataract.**—Dr. CHARLES A. OLIVER gave the clinical history of a case in a four-year-old boy. The clinical picture of this case of complicated secondary glaucoma was so complete, having been studied from what might almost be termed its very incipency to the final result, and the varying symptoms evolved from time to time were so at variance with what one would expect in such cases, that it offered itself as a most interesting and a most instructive study of this type of disease.

Unlike similar cases of sudden obstruction to proper lymph-stream circulation, there remained from the very first, as shown by the fields of vision, and as afterward proved ophthalmoscopically, an element that might possibly complicate many more cases of the traumatic type of this disease than was at present imagined, namely, retinal detachment. Again, the condition of the vitreous and the peculiarity of its opacities, taken in connection with the history of the case, would go far to show that there had been a hæmorrhage into that humor which most probably might have been recognized ophthalmoscopically had the patient been seen a week earlier. These, with a few though certain evidences of a low grade of iridocyclitis, made the case still more atypical.

On the other hand, the progressive diminution of the field of vision, the gradual distention of the globe, the localized tissue-bulgings in the upper ciliary regions, the deep and characteristic cupping of the nerve-head, the reapproximation of the remaining areas of retinal detachment, and the late fixedly increased intraocular tension, all showed the certainty of degeneration even in a young and yielding eyeball, when such tissues were subjected to a persisting increased intraocular pressure.

As to an answer to the vexed question of treatment in such cases, the author would leave this for another and more extended communication, reserving the present brief though detailed account of the clinical history as an interesting and useful exposition of a grouping of symptoms which had been carefully studied and could be thus employed to illustrate the results of two conflicting contemporaneous conditions produced by traumatism—localized inflammatory reaction and obstruction of lymph-stream circulation.

**A Further Note on an Unusual Form of Macular Lesion following Iritis** was presented by Dr. GEORGE E. DE SCHWEINITZ. The patient, a fifty-year old woman, had recovered with a nearly normal sharpness of vision, but with some vitreous opacities, from a violent attack of serous iritis. The eye had remained comfortable for eight months, when she appeared with a positive scotoma and the ability to see to count fingers only when situated in the periphery of the visual field. In addition to the positive scotoma, which the patient described as appearing "like a dinner plate with a green edge," there was a small absolute scotoma at about the horizontal level. Ophthalmoscopic examination revealed an oval reddish area, giving the impression of a disintegrating hæmorrhage and containing in the centre several white dots situated exactly in the centre of the macular region. Dr. de Schweinitz referred to the unusually distinct macular ring, which seemed to indicate that there must be some thickening in the periphery of the hæmorrhagic area.

**An Unusual Submacular Hæmorrhage.**—Dr. OLIVER exhibited a water-color sketch of a case of unusual submacular hæmorrhage forming a part of some very curious lymph extravasations in the retina without any vitreous disturbances, found in the left eye of a healthy sixty-five-year-old woman upon whom he had successfully operated for black cataract by simple extraction some two months previously, the operation being perfectly smooth and the appearance of the interior portion of the eye normal in every respect. The sketch had been made for him by Miss Margaretta Washington.

**Convergent Strabismus and Very High Myopia.**—Dr. DE SCHWEINITZ gave the clinical history of a patient suffering from convergent strabismus of the left eye and a very high myopia, 16 D. Ophthalmoscopically, the following lesions were present: A small posterior polar cataract, numerous fine vitreous opacities, and a horizontally oval optic disc of a greenish-gray color. The nerve-head was imbedded in the centre of a huge mass of opaque fibres which followed the course of the principal vessels almost to the periphery of the fundus and in all directions, but less decidedly downward and to the nasal side. A small patch in the macular region was not covered by the opaque fibres, but was disturbed by superficial choroidal changes. There was almost complete loss of the nasal field and of the entire centre of the visual field, with the exception of a small area to the nasal side of fixation, about ten degrees in diameter, within which the white test object was dimly seen. Colors were correctly appreciated when held in the temporal field. The case was illustrated by a water-color drawing made by Miss Washington.

In the discussion, Dr. B. ALEXANDER RANDALL showed a card-specimen of a case of retained nerve-sheaths in a case that had been sent to him for supposed intracranial disturbances. In this case there was an isolated patch situated in the macular region.

Dr. OLIVER exhibited the drawing of a case in which the medullation began at the edge of the disc and divided into two cometlike processes extending along the lines of the larger retinal vessels. This case had been seen through the courtesy of Dr. Goodman and Dr. Ziegler at the Wills Eye Hospital. He also spoke of a drawing that had been made for him by Dr. Randall, which was one of the most extensive of annular types that he had ever seen. The case occurred in a nine-year-old highly myopic boy who never had had any subjective symptoms of the condition.

**An Asbestos Cover-Chimney with Disc Attachment for Ophthalmoscopic Purposes.**—Dr. JAMES THORNTON, by invitation, exhibited this device. The original form with the disc attachment he had made two years previously. The present arrangement showed that five changes could be made in the disc. 1. The one-centimetre opening fulfilled all the purposes of the original chimney. 2. The two-centimetre opening permitted of greater freedom of movement on the part of the observer without moving the light. 3. The three-centimetre opening might be used as a source of light for the concave skiascope or for the ophthalmoscope, otoscope, etc. 4. A round section of cobalt-blue glass for the chromatic-aberration test of ametropia had been added, as also: 5. The perforated disc, with perforations and spaces each of 1.45 millimetre, to test for astigmatism at one metre's distance. The author stated that he had a new form of contrivance in the course of preparation, which would have a simple shutter with different changes in it, to work up and down in front

of the opening in the asbestos chimney by means of cogwheels. He should also employ a horizontal slip one eighth of an inch wide to exercise the oblique muscles, as suggested to him by Dr. Savage, of Nashville, Tenn.

Dr. CHARLES SHAFENER strongly recommended the asbestos form of chimney, as it radiated but little or no heat and was always sufficiently cool to handle without burning the fingers. It had been his intention to present one that he had been using for some time, but, as he considered that the present form and the one recently brought forward by Dr. M. W. Zimmerman were much better, he had refrained from so doing.

**New Perimetric Lenses.**—Dr. THORINGTON showed a new form of perimetric lenses which received their name from the fact that their optical centre corresponded to the points of fixation in the fields of vision. The reasons given for the recommendation of the lens were that it gave to the eye that form of lens which was consistent with a normal form of the visual field, it removed the edge of the lens to such a distance that the edge could not be seen to any great degree while the eye was fixed straight ahead, and bifocal segments could be made much larger. He stated that the increase in weight need rarely exceed the ordinary form of from twenty-five to thirty grains; the large size did not attract much attention; and the cost would remain the same as in the ordinary styles used. On account of the necessary great weight and thickness, he believed that this form of lens could not be used for cases of aphakia and high myopia, but showed that, as this class of cases constituted much less than one half of all refraction cases (thirty-seven per cent.), the lens would be accepted in the majority of instances.

**Microscopic Specimens showing the Various Forms of Eyes seen in Fish, Reptiles, Birds, Quadrupeds, and Man.**

—Dr. OLIVER exhibited and demonstrated a series of such specimens. He showed the marked differences in the conditions of the dioptric media, the varying shapes of the eyeball, the relative positions of the eye in the head of the animal, the adaptations for near-focusing and for far-focusing, the arrangements for increase of the interior illumination, the positions and peculiarities of the nerve structure, and the relationship existing intracranially between the two organs in the aquatic, the terrestrial, and the aerial forms of animal life.

## Miscellany.

**The Treatment of Tremor.**—In an article on this subject, published in the *Journal des praticiens* for August 29th, M. Liegeois recommends the following methods: In the trembling of sclerosis the motor-excitant medicaments tend rather to exaggerate the trouble; but its oscillations diminish perceptibly under the influence of solanine, which is preferable to potassium bromide, to belladonna, and even to acetanilide, according to Lepine, and to salol, which Dubief employed in amounts of from forty-five to ninety grains a day. The dose of solanine is from 1.5 to 4.5 grains a day. Cold douches and galvanic baths also diminish the trembling, and, according to Bernheim, suggestion does the same.

In hysterical trembling cold douches, cold baths, spraying with ether or with methyl chloride on the

spine, electro-static baths associated, if desired, with feeble mechanical excitation are, together with complete and systematic isolation, more useful than all the antispasmodic medicaments. Bromides especially must be avoided. Metallotherapy, magnets, suggestion, and rotating mirrors, according to Lays, are to be reserved for the rebellious cases, and ovarian compression for the paroxysmal trembling or for that which follows acute emotional shocks.

For the trembling of neurasthenia warm douches are recommended when the subject is arthritic; if not, they may be followed by cold douches or cold baths. Spraying with ether or with ethyl chloride on the spine, where the tender spots are usually found, is indicated in these cases rather than in hysterical subjects. Electricity in the form of Paul's galvanic baths or electro-static baths of feeble intensity may be used. Tonics are useful aids to the principal treatment.

The treatment of epileptic trembling does not differ from that of epilepsy itself, as the trembling does not manifest itself apart from the attacks, since it forms an integral part of the attacks, whether it replaces the tonic phase, whether it alternates with the clonic convulsions, or whether it follows a paroxysm of delirium; and of agitation in cases of established epilepsy.

The almost constant trembling of Basedow's disease does not demand intervention when it is slight; as soon as its rapid oscillations cause violent shaking of the arms, even when at rest, when the legs assume a pedal movement, tincture of veratrum must be administered in amounts of from ten to twelve drops a day during a period of weeks, or antipyrine in amounts of from thirty to ninety grains a day. Strong electro-static baths are also followed by the most favorable results.

In regard to the trembling of paralysis agitans, the author is undecided as to whether it should be combated by motor-excitants rather than by reflex sedatives or *vice versa*. The muscular rigidity, he says, and the partial contractures which are coincident with the trembling are sufficient indications that the Parkinsonian trembling belongs to the convulsive order; consequently it is not surprising that the motor-excitants exaggerate the trouble. The following reflex sedatives will be found to be useful in these cases: Alkaline bromides, from seventy-five to one hundred and eighty grains a day; camphor bromide, twenty-two grains; and sodium borate, from fifteen to forty-five grains; extract of belladonna, from 0.3 of a grain to three grains; hyoscyamine, from 0.0062 to 0.186 of a grain; this should be preferred to the extract of hyoscyamus and to daturine, the effects of which are too slow, and to hydrobromide of hyoscyamine or to sulphate of duboisine, which are dangerous to handle; veratrine in very minute doses, and better still, the tincture of veratrum viride; hot baths at a temperature of 122° F.; cold affusions on the head and applications of ice to the region of the fissure of Rolando; and Paul's galvanic baths or electro-static baths. The author thinks that subcutaneous injections of a four-per-cent. solution of sodium phosphate diminish the Parkinsonian trembling, and that they are more efficacious than arsenic. When the disease has evidently followed exposure to cold and wet, sodium salicylate or salol is recommended. The trembling which is cured by mercurial treatment and potassium iodide does not depend, the author thinks, upon paralysis agitans, but should be ranked in the category of syphilitic trembling, which is coincident in some neuropathic subjects with the appearance of



secondary symptoms. If cauterization of the nape of the neck and in the sacral region, if hypodermic injections of ergotinine have acted sometimes as reflex sedatives, it is by producing anæmia, directly or indirectly, of the spinal marrow that they have restrained the excessive activity of the anterior cornua. After the ingestion of a large dose of opium or of morphine for insomnia, the trembling increases, but with the use of codeine the results are different.

Nothing seems to give better results, says M. Liegeois, for senile trembling of the limbs accompanied with a transverse or vertical tossing of the head, than an analeptic diet and river bathing, if there are no contraindications; an infusion of the flowering heads of *Chenopodium ambrosioides* may also be given in the proportion of from one hundred and twenty to one hundred and fifty grains to a pint of water. Is it not possible, asks the author, that generalized faradization, Paul's galvanic baths, and electric baths may retard the evolution of the peripheral polyneuritis which appears to provoke senile trembling?

The inability of the hands to hold anything, the paresis of the legs, with a dragging gait, the arrest of the tendinous reflexes, and the trembling which are seen in alcoholics, should be classed, the author thinks, with the trembling of paralysis. In such cases strychnine alone is not so efficacious as when it is associated with picrotoxin and with veratrine. Ten galvanic or electric baths give successful results in tremor potatorum. For this acute stage of chronic alcoholism, which is called delirium tremens, alcohol in doses of from two to three ounces is an excellent remedy, which, says M. Liegeois, has never failed to give him good results. It induces sleep immediately and the patient awakens cured; whereas opium, chloral, methyal, and strychnine have failed to induce sleep under three or four hours.

Three kinds of trembling of metallic origin, from mercurial, lead, and copper poisoning, are amenable to the same treatment, that of potassium bromide in amounts of from thirty to one hundred and fifty grains a day during a period of a month. It forms with the metallic substances a soluble bromide of double strength which is easily eliminated by the urine. The trembling of those who work with rubber and arsenic is tenacious, and there are no eliminating agents for these poisons except friction and baths.

The trembling of inveterate smokers and of those who abuse the use of coffee, rarely of tea, ceases shortly after the suppression of these poisons.

The trembling due to the use of opium or morphine, to hasheesh, or to cocaine supervenes as soon as the subject is deprived of the poison, and it is difficult to overcome.

M. Liegeois calls attention to a rare form of trembling which disappeared after lumbar puncture had been practised. The patient was a woman who was attacked with the trembling a year after the onset of coccygodynia. She was not hysterical.

The author states that he has observed a permanent trembling of the hands, and especially of the thumb, in a woman who suffered from aortic insufficiency with visible capillary pulsation; a transmitted trembling which M. Liegeois thought was connected with the impact of the blood against the walls of the capillaries spasmodically closed, as is frequently the case in aortitis. The trembling became considerably modified under the influence of the tincture of veratrum viride.

which acted in this case as a brachycardiac and arterial depressor rather than as a reflex sedative. M. Liegeois thinks that the value of sparleine sulphate has been exaggerated in the treatment of the trembling of neurasthenia, of sclerosis *en plaques*, and of long-standing hemiplegia.

**The Serum Treatment in Grave Scarlatina.**—In the *Presse médicale* for August 26th M. Roger contributes a long article on this subject, of which the following is the substance: Scarlatina, he says, would be a comparatively benign disease, at least in adults, without the secondary manifestations which too often follow it. However, in spite of the frequency of otitis and nephritis and of the dangers to which these complications expose the patients, the mortality is not very high. Out of a hundred and eighty-three cases which came under M. Roger's observation during a period of six months, only two patients died. In one case the patient had secondary syphilis. The scarlatina was not very intense and recovery took place rapidly; the albumin disappeared on the tenth day and the patient seemed to be fully convalescent, when, on the twenty-eighth day, albumin was again found in the urine. The patient was put immediately on a milk diet, but on the following day she was taken suddenly with a terrible attack of suffocation and died in a few minutes. At the autopsy, besides the renal lesions, a subacute œdema of the lungs was found. It is very certain, M. Roger thinks that in this case death was not caused by the fever, but by the renal lesion which was provoked by the primary infection or by a secondary infection. In the other case death ensued after the eruptive period. When M. Roger saw the patient he prescribed cold baths and a subcutaneous saline injection, but before the treatment could be begun the patient died suddenly. At the autopsy the usual lesions of intense fever were found; the blood was fluid, black, diffuent, and badly coagulated; there was intense congestion of the viscera; the cortical substance of the kidneys was dotted with red spots, and the spleen was enormous. The bacteriological examination revealed the presence of streptococci in the blood and in the viscera. It seemed difficult, in spite of all this, says M. Roger, to attribute death to a secondary infection, for it was a true case of malignant scarlatina.

M. Roger gives a detailed account of another case in which he determined to use active therapeutic measures and procedures which had given successful results in other infectious diseases. The prognosis of the disease seemed to point to a rapidly fatal termination, and he resolved to make a trial of the serum treatment. The preparation for this occupied an hour, and during that time the patient's condition became worse, so that death seemed imminent. At eleven o'clock in the morning phlebotomy was practised on the patient, and afterward eighty cubic centimetres of defibrinated blood which was taken from a patient convalescent from scarlatina were injected under the skin of the abdomen. Five hours later the patient was sleeping quietly and breathing easily. When he awoke and moved the respiration changed and became of the Cheyne-Stokes type; the pulse was 120 and feeble; the tongue was moist; the temperature, however, remained high and no urine was passed. A bath of 82° F. was then given and the temperature began to fall. Three hours later twelve ounces and a half of saline solution were injected subcutaneously and in an hour urine was passed. Two hours later the patient was sleeping quietly; the pulse was 100, and the respiration 25.



On the following day the patient was completely changed; he felt better and asked for food; his tongue was raw but moist; the eruption was pale, except on the legs, where it was still very pronounced; the pulse was feeble but regular, with 80 pulsations; and the respiration was 22. During the twelve hours following the last injection the patient passed eleven hundred cubic centimetres of urine, which was of a dark-red color, but it contained no albumin. The temperature during the day ranged about 100.2° F. and on the following day it became normal. For several days afterward nothing special was noted, and the infection terminated rapidly. M. Roger says that he has never seen such a rapid recovery follow in such a grave case of scarlatina.

During the course of the disease the toxicity of the urine was demonstrated from day to day by intravenous injections in rabbits, all of which died in from twenty to thirty-six minutes after the experiments were begun; the symptoms manifested were convulsions, salivation, and excessive contraction of the pupils. M. Roger thinks it would be interesting to study the toxicity of the urine in scarlatina; the investigations, he says would be all the more important because, in the preceding observation, the evolution was absolutely anomalous. In this case defervescence was rapid instead of being progressive, as is usually the case, and the disease terminated suddenly. This, he thinks, is one of the best arguments in favor of the serum treatment.

It is not the author's intention to draw any conclusions from this case; he reports it simply to call attention to a method of treatment which may perhaps be of service and certainly deserves to be studied.

**Immediate Cystorrhaphy following Suprapubic Cystotomy.**—In the August number of the *Revue de chirurgie* there is an article by M. de Vlaccos, of Métélin, who deals only with immediate suture of the bladder after cystotomy for calculus, for it is especially in these cases, he says, that suture of the organ can nearly always be practised, as is shown by the rarity of the vesical alterations which investigation as to primary union may contraindicate.

Although immediate cystorrhaphy following suprapubic cystotomy was for a long time commonly employed by many foreign surgeons, says the author, in France this ideal treatment of the vesical wound was not adopted with enthusiasm, and even at the present time, in spite of the attempts and the success of Tédénat, J. Lucas-Championnière, Schwartz, Tuffier, S. Pozzi, Bazy, Ricard, Segond, and others, siphonage is the method which is generally employed and advocated by the chief of the Necker Hospital and his pupils, by C. Monod, P. Reclus, Desnos, and the majority of operators.

M. Vlaccos states that his personal observations of suprapubic cystotomy are not sufficiently numerous to serve as a basis for investigations as to the frequency of vesical alterations, but from a study of other observations he is led to consider that alterations of the organ profound enough to contraindicate suture are very rare. It seems to him, moreover, that even the advocates of suture are too much inclined to admit the existence of vesical lesions which contraindicate primary union. The author states that, in regard to extreme friability of the vesical walls, he does not see in the common vesical lesions in persons suffering from calculus any justifiable cause for proscribing immediate suture. Another argument, he says, which is advanced by the opponents of immediate union, is the difficulty of securing a good suture,

If the success of primary union depended on the perfect occlusion of the sutured wound, the advocates of immediate suture would without doubt cease to run after this illusion; for, according to the author, in spite of some assertions to the contrary, with no special skill on the part of the operator, with any kind of suture, absolute occlusion of the vesical wound can not be obtained. But, he asks, is it really indispensable that suture should be occlusive to such a degree? Evidently not, for, with all precaution taken, if the bladder is not at any time distended by urine in such a way as to cause the intersutural spaces to gape and allow the urine to filter into the prevesical region, what good is to be obtained by striving to seek a chimerical occlusion? An occlusion which is as exact as possible of the cut edges, with intermittent catheterism or a stationary sound which works perfectly, is sufficient to shorten the patient's stay in bed and to prevent all post-operative complications.

There are many procedures for suture, says M. Vlaccos, which are recommended by various operators, but the majority of them are useless. The two methods which seem to the author to be sufficient in practice are S. Pozzi's hem-stitch and Bagg's purse-string suture. The suture may be made with silk or with catgut. M. Vlaccos gives the preference to the latter; its absorbability is no reason, he says, for rejecting it.

The author states that he has practised cystorrhaphy at three periods of life. Old age has shown itself to be as favorable for the operation as infancy or middle life. He is convinced that immatulate bladders are not indispensable to immediate union, and he does not consider, with certain surgeons, that infancy is particularly propitious to the success of the suture. In all the cases in which he has practised suture he has allowed the patients to walk on the twelfth or fifteenth day; can as much be said, he asks, of those in whom siphonage is practised? The rapidity of recovery is in itself a very great advantage of cystorrhaphy, an advantage which the operator should always seek in practice, especially for the class of patients who have to work incessantly for a bare livelihood.

**The American Electrotherapeutic Association.**—The sixth annual meeting will be held in Boston, on September 29th and 30th, and October 1st, under the presidency of Dr. Robert Newman, of New York. The programme includes the following papers: The president's address—The Want of Education in Electrotherapeutics in Medical Colleges; What can be Done by the Use of Electricity to Avoid Surgical Operations? by Dr. G. Betton Massey, of Philadelphia; Electricity in Chronic Non-suppurative Affections of the Uterine Appendages, by Dr. F. Shavoir, of Stamford, Connecticut; Electricity in the Treatment of Diseases of the Throat and Nose, by Dr. O. B. Douglass, of New York; Electricity in the Treatment of Diseases of the Larynx, by Dr. W. C. Phillips, of New York; Accidents and Risks in the Use of Street Currents; how far are they Practicable and Safe in the Use of Electrotherapeutics? by Mr. J. J. Carty, E. E., of New York; Showing the Danger to Patients and to Operators, and the Utter Unreliability of Fuse Wires, Resistance Coils, and Incandescent Lamps as a Preventive of Excessive Flow of the Current into the Patient, by Mr. John J. Cabot, E. E., of Cincinnati; Experiments upon the Effects of Direct Electrization of the Stomach, by Dr. Max Einhorn, of New York; Electricity in Diseases of the Stomach, by Dr. David D. Stewart, of Philadelphia; The Static Current in the Post-apoplectic State,

by Dr. John Gerin, of Auburn, N. Y.; The Electrical Principles Generally Used in Medical Treatment, by Professor William L. Puffer, of Boston; The Relations of Physics to Physiology, by Professor A. E. Dolbear, of Somerville, Massachusetts; Electrotherapy in the Treatment of the Nervous, by Dr. W. S. Watson, of Fishkill-on-Hudson, N. Y.; The Role of Electricity in the Treatment of Uric-acid Diathesis, by Dr. J. G. Davis, of New York; Some Observations in Electrotherapeutics, by Dr. D. R. Brower, of Chicago; The Physics of the Production of the X Rays, by Mr. Edwin Houston, Ph. D., and Mr. A. E. Kennelly, F. R. A. S., of Philadelphia; The Treatment of Strictures by Electrolysis *versus* any other Treatment, by Dr. F. H. Wallace, of Boston; The Newman Method of Urethral Electrolysis—its Advantages, and the Reasons why Some Operators Fail, by Dr. Francis B. Bishop, of Washington, D. C.; Faradism in Gynæcology, by Dr. R. J. Nunn, of Savannah, Georgia; The Motor Dynamo Adapted to Electrotherapeutic Work—The Application of Electricity to Surgery, by Dr. William J. Herdman, of Ann Arbor, Michigan; A Summary of the Ultimate Results in Eighty-six Fibroid Tumors treated by the Apostoli Method, by Dr. G. Betton Massey, of Philadelphia; Some Experience and Experiments in the Construction of High-tension Coils and Electrodes, by Dr. Frank W. Ross, of Elmira, N. Y.; Electricity Considered in its Relation to Surgical Gynæcology, by Dr. O. S. Phelps, of New York; A Clinical Report of a Case of Rectal Phlebitis treated by Galvanism, by Dr. D. B. D. Beaver, of Reading, Pennsylvania; and the Electrotherapeutics of the Constant Current, by Mr. A. E. Kennelly, of Philadelphia. Other papers will be read by Dr. Frederick H. Morse, of Melrose, Massachusetts, and Dr. M. A. Cleaves, of New York.

**The Effects of the Poison of the Poison-bearing Fishes, *Trachinus Draco* and *Scorpaena Acropha*, on Man and on Animals.**—Dr. James Dunbar-Brunton contributes an interesting article on this subject to the *Lancet* for August 29th in which he gives a detailed description of these fishes and of the poison glands which serve as a mode of defense by causing the death of their enemies and preserving their own existence by making other fishes hesitate to touch them. The two fishes which Dr. Dunbar-Brunton deals with are very poisonous and are commonly found on the shores of the Mediterranean. They are only poisonous, he says, as a serpent is poisonous—that is, by wounding, for their flesh is good and wholesome. They differ greatly in appearance, but the poison produces the same effects. The effect of the poison on small animals is as follows:

A guinea-pig or rat being chosen for the subject of the experiment, one of these fish is grasped with a cloth and the spine is pressed against one of the animal's hind limbs till the point enters the skin. A few minutes after the animal has suffered this puncture from a recently caught living or dead fish it gives a few gasps and squeals, at the same time twitching the injured limb; these symptoms of local pain and irritation advance within a varying period to more general ones. This is the period when the poison is distributed throughout the system. Great pain is exhibited, and though when undisturbed the animal is affected with tremors, yet if excited at this time convulsive movements and contortions are produced, accompanied by screams of fear and pain. The animal finds itself unable to run or escape and often falls over, clawing the air with its fore legs; then, if left alone quietly, these

pass and the animal drags itself along by the front legs, the hind quarters being semi-paralyzed. Any touching or handling of the injured limb intensifies the sufferings of the animal. At this time the place of puncture is intensely red and swollen, and this area extends almost half an inch round the wound. All the wool is shed from the skin, which exudes a reddish serum. Later, if the animal is still living, this part is gangrenous. Usually, however, from now the progress of the poison is very rapid, and the animal is in a condition of semi-paralytic collapse. The pulse is small and the feet are cold. The urine and feces are passed involuntarily, the urine dribbling away. The eyes are starting and the nostrils distended, and respiration seems difficult. The animal is unable to move, the hind legs are stretched and flaccid, and almost completely paralyzed. This collapse becomes more profound and is soon followed by death. These symptoms and signs may be compressed into one hour or more, depending on the concentration of the poison injected. In cases where the poison is in very small quantity the animal may live for fourteen or sixteen hours before death comes.

To illustrate the effect of the poison on man, Dr. Dunbar-Brunton takes the case of a man who has been unfortunate enough to strike against one of these fishes with his foot. At the moment of puncture only the sharp prick is felt at the place of contact with the spine. In a few minutes, however, the part begins to burn and itch and then becomes acutely painful with sudden stabbing pains. These pains increase in violence and shoot from the foot, passing up the leg in lightning darts, which force the person to lie down and writhe. Then a feeling of suffocation is felt, also pain over the heart. From this time, those cries of anguish which can always be recognized as caused by the acutest torture and fear begin. These cries are continuous, and beads of sweat stand on his brow. The hand is put to the throat and heart, as if the action could relieve the feeling of suffocation, which now becomes stronger. Flashes of light pass before his eyes and the pulse is found to beat intermittently. The sufferer, moaning and imploring for aid, gradually seems to lose sight of the bystanders, and a delirium sets in where only the cries persist, accompanied by convulsions. This state may pass on to collapse and death, or may, after lasting for many hours, gradually subside, leaving a malaise which is very difficult to get rid of. In one case, says the author, in which a man had been poisoned in the same manner, this subsequent malaise persisted for nearly two months. During that time the man was under constant treatment, the shock having been so great; the wound on the foot at the same time was very reluctant to heal.

The local appearance of the injured part at this time, continued Dr. Dunbar-Brunton, is as follows: At the moment of puncture there is seen only a small hole in the skin, which may be pigmented by the membrane from the spine. This puncture does not bleed. Round the puncture is an area of about half an inch in diameter, where the skin seems whiter than the surrounding parts. Outside this is an area of redness more or less diffuse. A little later this redness encroaches on the white central part where the puncture is, and soon all is of the same color. Next the red increases in hue from light to dark and then from dark red to black. When this occurs there is considerable oedema and oozing from the wound, which now opens. This part in a day or two may become gangrenous and slough off, leaving an ir-



regular wound, or the gangrene may burrow to deeper parts and affect the joints. In some cases it becomes necessary to amputate the foot. The inflammation, even when much milder, is difficult to heal, and this, the author thinks, is due to the injury of the trophic nerves by the local action of the poison. In other cases boils and phlegmonous bullae appear on the affected limb, and this may be accompanied by a phlebitis. Describing the effect of this poison on man, P. Savitschenko says: "At the place of puncture, at the moment when the fish has wounded with the aid of one or more of the rays of the dorsal, caudal, or stomach fins, or with the spines which some fish have on the gill covering, there is produced a great pain which extends in rays around the place that has been punctured. At the same time the wounded person is subject to a sensation of fear and anguish, followed by a faint, which is preceded or accompanied by nausea and general collapse. The wound at the moment of puncture shows only the form of the spine which has produced it. . . . Its circumference, pale at first, reddens afterward, becoming more and more pronounced, finally engorged and black. The sick man at the same time is taken with a fever more or less strong, depending on the force of the wound and on the quantity and property of the injected poison in the skin, on the place and on the sensibility more or less of the person wounded. According to natives, these like wounds have often the most sad endings, the attention not being given in time or by incompetent persons."

The treatment of such cases, says Dr. Dunbar-Brunton, can be said to be twofold—to prevent the poison as much as possible from entering into the general circulation and to combat subsequent symptoms as they arise. If the wound is treated at once with a caustic or corrosive solution the major part of the general symptoms of poisoning may be averted or very much modified. Natives in the Mediterranean use bluestone for this purpose, but it is usually applied too late or insufficiently. The cautery, simple or galvanic, should be applied, or the wound well opened and washed with a strong solution of corrosive sublimate. The absorption of this poison is very rapid and the means at hand are generally the best to begin with. Thus it is better to open the wound and allow of free bleeding rather than wait for caustic or cautery. At the same time the patient must not be neglected. Brandy and sal volatile given frequently, as in snake poisoning, are of the greatest benefit. When there is much pain, morphine injections may be given, and these pains are among the most acute, so that quite a considerable amount of morphine will be required to alleviate these symptoms. Alcohol is valuable, as it also deadens the pains, and it may be given up to the semi-intoxication of the sufferer. The ammonia stimulates the heart against the effect of the poison. As soon as the acute pains are passed and the sufferer is more comfortable twenty grains of bromide of potassium with ten grains of bromide of ammonium may be given, combined with the liquor ammonii acetatis. This will give the patient a calm night and sleep. The subsequent treatment depends on the individual case. The malaise which follows lasts for a considerable time and is often complicated by the slow-healing wound in the foot or hand. In every case absolute rest should be enjoined.

The nature of this poison, says the author, approaches that of snake poison. It is alkaloidal, very quickly decomposed, and intensely rapid in its action. It is secreted by the fishes in larger quantities at the

spawning season and is most active in the male fish. It is a poison of which the smallest quantity introduced into the skin of an animal produces the greatest general effects, so much so that these fishes might well be called the snakes of the sea. The poison is clear, transparent, very slightly acid, and not at all viscid. It is forced into the canals of the spine only at the moment of use; at other times it lies in the gland. In any case it is secreted only in the smallest quantity, but this secretion goes on more rapidly in summer, when the spawning season is on hand. This animal-chemical alkaloidal poison, when introduced locally, produces within a few hours necrotic changes and a dead area follows. This is caused by its special action on the trophic nerves. Dr. Dunbar-Brunton thinks its special action seems to be on nerve tissue, as the general effects demonstrate, apart from local changes—pain, intense stabbing sensations, tremors, convulsions, and delirium. Then the heart is much inhibited, and this gives rise to feelings of suffocation and impending death. Dr. Dunbar-Brunton says that this alkaloid has not yet been isolated, but that if it should be done, it will be found to be more or less of the same group as the snake-poison alkaloids.

**The Action of Hot-air Baths in Albuminuria.**—The *Gazette hebdomadaire de médecine et de chirurgie* for August 27th publishes a report of a recent meeting of the Congrès français de médecine at which M. Carrié presented a paper on this subject. The author stated that he preferred this treatment to the use of vapor baths and to that of hot baths which did not produce sweating. The hot-air baths, he said, produced a sweating which relieved the kidneys by directing toward another tract a part of the substances which obstructed the kidneys and should be eliminated. Furthermore, the application of heat to the skin regulated the interchanges as all other excitants did, and patients with albuminuria were often subjects in whom combustion was deficient, or deviated from the normal type. The hot-air bath filled two principal indications: It relieved the kidney by the abundant sweating which it produced, and regulated the organic interchanges.

The immediate physiological effects of this treatment, said M. Carrié, showed themselves by a sensation of heat, which was not at all disagreeable, and an abundant sweating which was accompanied by an acceleration of the pulse and an elevation of temperature. Respiration was not at all affected. No symptom was produced, except some palpitation and headache during the first baths, which lasted about an hour; sweating was the only symptom that persisted for a greater length of time.

The therapeutic effects were manifested by the changes in the urine, the quantity of which diminished on the day after the bath, and a rather intense polyuria which supervened on the following day. The density of the urine was in inverse proportion to its quantity. The urea scarcely underwent any modification. The rate of albumin greatly diminished on the day after the bath, but it increased on the following days, although it did not return to the former quantity. Gradually, however, this diminution became persistent and finally there was complete disappearance of the albuminuria.

Hot-air baths, said the author, were indicated in cases of subacute and chronic nephritis in epithelial forms; they were, however, contraindicated in the vasculo-connective forms, and when arteriosclerosis, a skin disease, or a nervous condition existed.





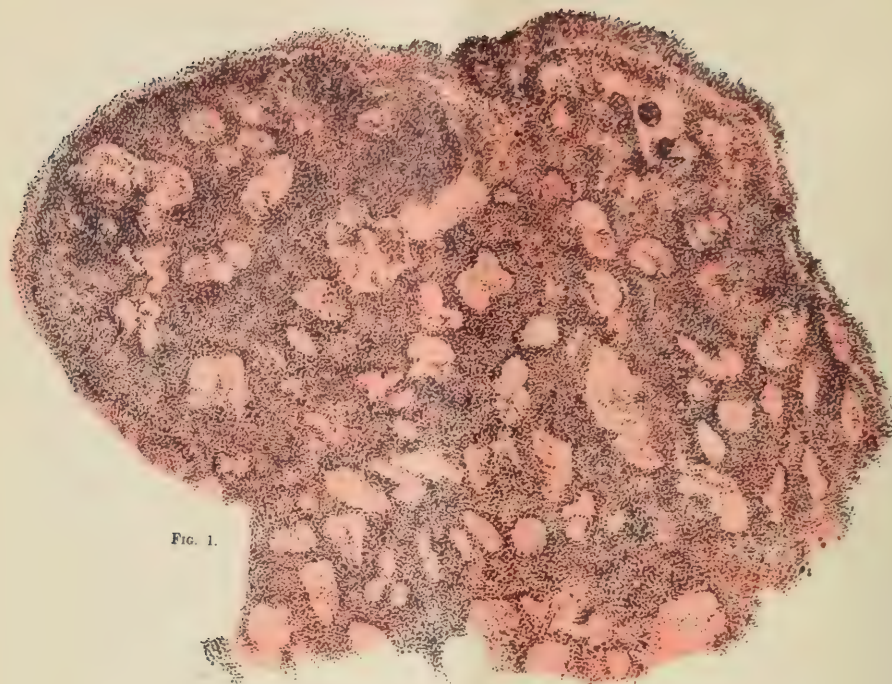


FIG. 1.



FIG. 2.

## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

By WILLIAM OSLER, M.D.,

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#### LECTURE V.—PSEUDO-ANGINA PECTORIS.

AN angina *notha*, false angina, was first described, so far as I can ascertain, by J. Latham in a paper (1812) on certain symptoms "usually, but not always, denoting angina pectoris." According to Huchard, the term pseudo-angina was introduced by Lartigne in 1846. Walshe called attention particularly to this condition, stating that "genuine angina pectoris is undoubtedly a very rare affection. On the other hand, I almost daily meet with a form of complaint combining, in a minor degree, many of the characters of angina; and to this imitation of the true disease I propose to give the name of pseudo-angina. I believe that herein lies the explanation of Laennec's notion (so discordant with the experience of English observers) that angina pectoris is of very frequent occurrence." The term which has come into general use, and is of no little value, has not passed without criticism. Balfour (*The Senile Heart*) says: "The term 'pseudo-angina' is often applied to anginous pains occurring before middle life, especially in the female sex, and yet we see that fatal angina may occur in one who is still but a girl. To talk of pseudo-angina is, however, a mark of ignorance rather than of refinement of diagnosis; for angina is but a symptom, and if well marked, it should no more be stigmatized as 'pseudo,' because it occurs in youth, than the lesion with which it is sometimes associated should be called functional because it happens to be curable." And yet, not two pages off, he says: "But in what we may term—for want of a better expression—false angina, we have only to deal with the pain, the danger of which depends upon its cause," and in reality he subsequently acknowledges the wisdom of Walshe's division.

Burney Yeo says: "I do not admit a pseudo-angina of some authors. Hysterical imitative anginas, however, certainly occur. But . . . there is simply a gradation of severity and curability between the so-called cases of pseudo-angina and those of true angina."

Morison, too, in a recent paper,† questions the correctness of the term: "A case of true angina is one in which there is no doubt about the angina, and there is no mistake about the reality of the pain or breast-pang in many so-called functional cases." "The idea of spurious angina is only permissible in so far as the angina is not associated with demonstrable lesion," and tends to

get well. Herein lies the essence of the whole matter—the symptoms, on the one hand, indicate the existence of a grave organic, usually incurable malady, and on the other, a condition very distressing, it is true, but rarely serious, and usually curable. The advantages in thus recognizing a functional group far outweigh any theoretical objections, and in a series of cases the forms are, with few exceptions, fairly well defined.

I have notes of some twenty cases of pseudo-angina pectoris, cases in which there were recurring paroxysms of severe, even agonizing cardiac pain, often with radiation. The absence of the mental element—*angor animi*—and the existence of collateral features, etiological or symptomatic, served to separate them from the forms I have previously considered.

I have only taken cases in which the seizures were paroxysmal and intense; if one counted all the slight cardiac disturbances in hysterical and neurasthenic patients as pseudo-angina, the list could be greatly extended.

At the outset let me emphasize three points of special significance:

*Firstly. Pseudo-angina is an affection of women.* You remember that in the series of organic or coronary angina there was only one woman—a mitral-valve case—the only instance of true angina that I have seen in a female. Of the twenty cases of pseudo-angina, twelve were in women. If we exclude two cases of tobacco angina, there were only six instances in males. In my series it was much more common in married women; there were only two girls, each aged twenty-two. We can say then that pseudo-angina is almost as much a special disorder of women as true angina is of men.

*Secondly. It occurs in younger persons.* The average age of the subjects of spurious angina is much lower than in the other form—thirty-eight years in my series, the extremes being twenty-two and sixty years, the latter a woman who had had attacks for twenty or more years.

*Thirdly. The patients do not die.* While fifteen of the subjects of true angina on my list are dead, every one of the twenty patients with pseudo-angina is alive; of several of the cases of true angina I have lost track.

Two main groups of functional angina may be recognized—the neurotic and the toxic.

**I. NEUROTIC.**—The cases in this group present a good many minor differences, either in the characters of the attack, or in the circumstances which favor its onset; and, based upon these, various subdivisions have been made. A majority of the patients are either hysterical or neurasthenic, or the features of the attack are of themselves distinctive of hysteria. In others the vasomotor phenomena are specially marked, while in a third set of cases the attacks appear to be excited reflexly, either by peripheral or visceral irritation.

At the risk of wearying you, I will read the histories

\* Delivered to the Post-graduate class, Johns Hopkins Hospital.

† *Edinburgh Hospital Reports*, vol. iii.



of a series of cases, from which you will get an idea of the varied features of the attacks. In every one of the first three cases the existence of genuine angina had been suspected, greatly to the distress of the patient or the relative. In the fourth the attacks were so anomalous that the presence of a tumor in the mediastinum was thought possible. An apprehension lest the true nature of the case should be overlooked is, naturally enough, the feeling uppermost in the mind of the attending physicians, whom to convince of the hopeful nature of the complaint I have sometimes found very difficult.

**CASE I.**—Mrs. X., aged thirty-eight years, consulted me on January 9, 1894, complaining of attacks of agonizing pain in the chest.

Her father died at sixty-seven years, of cancer of the stomach; her mother, of nephritis, at the same age. There are no nervous affections in the family.

At the age of six she had rheumatic fever, and at twenty-one rheumatic sciatica, which has returned once or twice, but not within the past ten years. She has been married sixteen years and has two children. Until about six years ago she was subject at times to fainting fits, which would come on without any definite cause. She had them almost from her childhood, and I can not get either from herself or from her husband any accurate information as to her behavior in these attacks, which are apparently quite transient, and not associated with convulsive movement, nor does she apparently always lose consciousness. She is a woman of a good deal of character and determination, and of executive skill, and does not give one the impression of being of a neurotic habit. She has always been able to do a great deal of walking and has not suffered specially with shortness of breath. Five years ago she had an attack of appendicitis, from which she recovered without operation. In the spring of 1893, when returning from Colorado, and after a good deal of mental worry, she had an attack of very severe pain in the chest. It came on after exertion and exposure to the wind in walking. The pain was of terrible severity, extended up the neck and down the arms; but she was able to move about in it and was a good deal excited. Since that attack she has been, at intervals, a little short of breath on exertion. She has had two of the severe attacks since; one last summer at the seaside, when walking on the sand, the other two months ago. Both of these were of great severity; the pain was agonizing; she became gray and cold and exhausted, and the skin was covered with a clammy perspiration. She states, too, that she had a sensation as though she could not live through it. One of these attacks was followed by a transient facial paralysis. Last August, for the first time in her life, she began to have headaches, which have recurred as often as two or three times a week. They are of the type of migraine, and come on with disturbance of vision; she sometimes sees figures and queer things; once she had hemianopia. The attacks prostrate her very much.

About the middle of December her feet and ankles began to swell, particularly at night. At first there was little or no pitting, but now they are sometimes swollen to the knees. The urine has been normal in quantity and without albumin or tube casts.

The patient was a well-nourished, healthy-looking woman; pulse 80, regular, without increase in tension, and the vessel was not sclerosed. The thyroid was not

enlarged, and there was no puffiness of the face or above the clavicles. The feet and ankles at the time of examination were not oedematous. The examination of the heart and other organs was entirely negative.

A hopeful prognosis was given in the case, based on the view that the attacks, though severe, were probably pseudo-angina. The occurrence of migraine, with which pseudo-anginal attacks may alternate, and the swelling of the feet without evidence of heart or renal disease, were corroborative features. I have heard of this case several times; she got better, and the painful heart attacks, when I last saw her husband, six months ago, had not recurred.

**CASE II.**—Mrs. F. R., aged forty-two years, seen April 9, 1894, complaining of attacks of agonizing pain in the chest.

Patient comes of a very nervous family, and one sister is in a lunatic asylum.

She was well and strong until two years ago; she has had five children, the youngest six years old. She has never had any special illnesses. She was not specially nervous as a young girl, and had no crying spells or hysterical attacks. Her domestic relations are congenial and satisfactory.

The present trouble began two years ago last February, when one morning she had an attack of severe pain in the chest. It began in the pit of the stomach, became most intense under the left breast, and extended round the shoulder. As she expressed it, she thought death had come. She got cold, broke out into a profuse perspiration, and during the attack was completely helpless. The attack lasted for about an hour and left her much prostrated. During the succeeding year she had about four attacks, each of great severity and identical in character. In the past year they have become more frequent; thus, she has had two in the past month. The last attack was on the 1st of April. She felt comfortable in the morning when she got up, but after breakfast felt a little drowsy and heavy, and lay down on the sofa. The attack came with the greatest rapidity and was so severe that she could not rise. The breath gets short; she feels a sensation of deathly coldness about the heart, and the chief pain is under the left breast. She can not move about, and when the pain is at its height she can not bear to be touched. As it comes on she loosens her clothing, but as the attack increases in severity she is quite beside herself, tosses about, and is, as she says, almost dead. She groans a great deal, and in some of them has cried out very loudly. Her husband, who is a traveler, has only seen her in two attacks, both of which came on with great suddenness. She got very cold, the face became pinched and drawn, at first a little congested, and then pale. Twice she vomited in the attack. The duration has been from a quarter of an hour to an hour. She has had to have morphine hypodermically on several occasions. After they pass away she feels miserable and is wretched for two or three days. Sometimes the whole body is sore after an attack.

She knew of no special circumstance apt to induce an attack. She was low-spirited at times and noticed that she has been a little despondent prior to their onset. She has not been short of breath on going upstairs or uphill; not more than might be expected in a stout woman. Exertion has never brought on the attack.

The patient was a large, stout, healthy looking woman. There was no arcus; the color was good; the tongue clean; the temporal arteries not sclerosed; pulse 84, readily compressed; the vessel wall was not sclerosed. There was slight throbbing in the vessels of the neck. Percussion was clear on manubrium. The cardiac dullness began on the fourth rib; both sounds were clear and loud on manubrium. At first right interspace there was a soft systolic murmur, and the aortic second sound was here a little accentuated. The first sound was loud and clear upon sternum; there was no murmur at the apex. There was no pain on firm pressure over manubrium or adjacent parts.

The soft bruit at the aortic area, and the accentuation of the second sound, made me a little suspicious of this case, though the general features of the attack were rather those of pseudo-angina. The subsequent history, as obtained from Dr. G. W. Norris and from her husband, on October 27, 1894, and July 7, 1895, shows that she steadily improved and the attacks have now ceased.

CASE III.—Mrs. B., aged thirty-three years, seen with Dr. Smith, of Havre-de-Grace, February 11, 1895, complaining of attacks of pain about the heart and shortness of breath.

Her mother died of apoplexy at sixty; her father had a hemiplegic attack two years ago.

The patient was healthy as a child. At her seventeenth year had nervous prostration with headaches. She has never had any fevers, and has not had chorea or rheumatism. She has been married for twelve years; has had three children; the youngest is between three and four years of age.

The symptoms of which she now complains began about two years and a half ago. During her last pregnancy she had acute nephritis, but after delivery the dropsy disappeared rapidly. Within about six months she began to have attacks of palpitation and pains about the heart. These are very apt to come on five or six days before the menstrual period. She has two grades of attacks: In the severer type she gets very cold in the hands and feet. The heart begins to throb; she has choking sensations in the neck, and a sense of pain and oppression in the region of the heart. The pains do not extend to the arms. The face gets flushed, sometimes very much congested. She becomes very nervous, and the pain is so intense that she requires morphine. The attacks come on at any time, but exercise, heavy work of any sort, and worry, have seemed the most common exciting causes. In the milder attacks she has a little shortness of breath, the face becomes flushed, and there is a sense of oppression about the heart. They often pass off if she takes a hot drink or a dose of Hoffmann's anodyne; she has never fainted. She has no dyspepsia, nor does she think that anything she eats ever brings on an attack. She has been exceedingly nervous and worried about her condition, particularly since a physician told her a year ago that she was liable to die suddenly. Up to a year ago she weighed only a hundred and fifteen pounds; she has rapidly increased in weight to a hundred and forty-three pounds. She was a healthy-looking woman of a florid complexion. She did not look of a nervous temperament. The pulse was good, 100 a minute, without increased tension; the arteries were not sclerotic. The condition of the heart was negative, the

aortic second sound was ringing and accentuated. The pupils were equal; she had no arcus senilis.

There seemed very little doubt that this was a pseudo-angina, and I reassured her upon the question of sudden death. I heard of this patient on July 13th and on December 30th. She has not had a severe attack since February; for a few months she had "threatenings," as she calls them; since July she has been quite well.

The following case is of interest from the intensity of the paroxysms and the hyperæsthesia of the left arm. She had been alarmed, too, by the serious view which had been taken of her condition:

CASE IV.—Miss C., aged twenty-two years, referred to me September 29, 1891, by Dr. Clark, of Skaneateles, complaining of remarkable attacks in the region of the heart.

The family history is good, and she has herself always enjoyed very good health. She is evidently a high-strung, nervous girl, who has studied hard. When quite young, about the twelfth year, she had for a time pain in the left side about the heart and sensations of coldness.

The present complaint has persisted for between two and three years. She describes a pain, more or less constant in the left front of the chest, which sometimes goes down the arm, which becomes numb. She says she is never without this pain, and that it sometimes keeps her from sleeping. Then she had sudden spells, in which she has a terrible sensation of spasm in the region of the heart, as though something had grasped her. It differs altogether from the other pain. In severe attacks it has lasted all night, and she has had to gasp for breath. She does not perspire. The left arm becomes numb, often tingles, and in severe attacks the numbness extends to the left leg. The left arm feels almost paralyzed and is tender, and she can not use it in the attacks. There may be headaches, but she is never sick at the stomach. She never has any special coldness of the extremities. She has only had four of these very severe paroxysms within the year. During them she takes chloroform and nitrite of amyl. They have never been brought on by exertion, and she has been able to play tennis quite actively. Excitement and emotion most frequently cause them.

The patient was evidently very neurotic. She had no heart disease, no increased tension, and no sclerosis of the vessels. An interesting feature was the great sensitiveness of the left hand and arm. She jumped at once when I touched the wrist in order to feel the pulse. The various forms of sensation in it were perfectly normal. Though sensitive to the touch, she feels it numb and heavy. The sensitiveness did not extend to the skin of the chest.

The condition had been the cause of a good deal of alarm to her friends, and a diagnosis had been made by one of her physicians of a tumor pressing in the region of the heart. She was given a very favorable prognosis.

I saw this patient for a few moments about a year ago. She had entirely recovered from her attacks and, though nervous, seemed very well.

(To be concluded.)

## Original Communications.

TUBERCULOUS INFECTION OF  
THE LYMPHOID TISSUE IN THE PHARYNX,  
WITH SOME REMARKS ON LARYNGEAL INFECTION.\*

By JONATHAN WRIGHT, M.D.,

BROOKLYN.

In making the few remarks which follow, I do so as a sort of addendum to the paper which I hastily prepared last year for the discussion on tuberculosis of the upper air-passages by this association.

You may remember that I quoted a short abstract of a paper by Dieulafoy, of Paris, upon the lymphoid tissues of the throat as a tuberculous manifestation. In reading the paper † itself since then I found that his experimental evidence consisted of the following facts: In sixty-one guinea-pigs, he inoculated the peritoneal cavity with palatal tonsils from apparently non-tuberculous children. Of these, eight, or a little less than one in eight, contracted tuberculosis. In thirty-five guinea-pigs he inoculated lymphoid tissue from the nasopharynx in the same way, and seven of them, or one in five, developed tuberculosis.

Lermoyez,‡ you will also remember, had previously reported two cases of tuberculosis following, and apparently dependent upon, operations for adenoids.

Dansac \* had also made examinations of tonsils and found, as he claimed, evidences of tuberculous infection.

Now, if enlarged tonsils are tuberculous manifestations either in the oropharynx or in the nasopharynx, or if any considerable number of them, as above appears, really contain any tuberculous foci, laryngologists should know of it. Certainly we have been familiar with these growths for a long enough time to observe them carefully, and every laryngologist's observation has been wide enough to convince him that there must certainly be some mistake in the assertion that any considerable number are more than simple hypertrophies of pre-existing lymphoid elements.

Several years ago Massei, of Naples, wrote to me inquiring if I had ever found the tubercle bacillus in the healthy nose, and asking me to make inquiry of other observers. A well-known physician of Brooklyn, a skilled bacteriologist, at that time told me that he had found tubercle bacilli in his own nose, after a prolonged stay in the phthisical wards of one of our hospitals. He was and still remains, after a lapse of five or six years, a perfectly healthy man. This communication I forwarded to Massei with the statement of my belief that the bacilli would not infrequently be found to exist under such conditions in healthy noses and throats. Sev-

eral years later, Strauss, in Paris, reported his examinations by which he showed that such is the fact. Massei has lately published an address,\* in which he says that inquiry among many laryngologists by a circular letter had elicited only a few answers, and in addition to my own, only one in the affirmative, from Liebermeister, to the question as to whether tubercle bacilli were found in healthy throats. This was in 1892, and Strauss's work was published in 1891. The investigations of Baumgarten, Sims Woodhead, Krickmann, and others prove pretty conclusively that the bacilli do get through the epithelium of the throat and into the cervical lymphatics in tuberculous subjects and in animals fed on tuberculous food. Were it not for clinical experience, therefore, and such investigations as those of Dr. Hodenpyl, it would seem extremely probable that the lymphoid tissues of the throat should contain tubercle. Dr. Hodenpyl † examined about two hundred sections for bacilli and found none, nor anything like tubercle in tonsils.

The matter standing thus, I determined to repeat some of Dieulafoy's experiments. On looking over the catalogue of the pathological specimens which I had examined microscopically in the last six or seven years, I found among them about sixty tonsils and adenoids. These had been hardened and stained in various ways and examined histologically with no special search for evidences of tuberculosis, but of the whole number, which must have consisted of several hundred sections, none had ever presented an appearance which had made me even think of tuberculous tissue. One or more slides from nearly all of these specimens had been preserved, and I again went over them for evidences of tubercle. Occasionally, in an area of recent inflammation of a tonsil a giant cell would be seen, but never perfectly typical. No "coagulation necrosis" or other evidence of tubercle could ever be found. These specimens had never been examined for bacilli, and most of them had been soaking so long in the alcohol that they would be useless for bacterial examinations. I took seven of the more recent celloidin blocks, however, and stained four sections from each for tubercle bacilli with Ziehl solution that was giving positive results with sputum and tuberculous tissue.

As the cases came into my clinics last winter for operation, tonsils and adenoids in unselected cases were cut out with sterile instruments. Half of each specimen was put in a sterile test tube, sometimes with and sometimes without sterilized water; and the other half was put in ten-percent. formalin for twenty-four hours, then in alcohol, ether, and celloidin, blocked, cut, and stained with Ziehl solution. The pieces in the sterilized tubes were sent to my friend Dr. W. H. Park, who put them into the peritoneal cavities and subcutaneous tissues of guinea-pigs. The number of these experiments was for

\* Read before the American Laryngological Association at its eighteenth annual congress.

† *Archives de laryngologie et rhinologie*, July and August, 1895.

‡ *Annales des maladies du Cerveau*, etc., October, 1891.

\* *Ibid.*, July, 1893, p. 564.

\* Diagnostica e cura della tubercolosi della laringe. Estratto dal supplemento al *Policlinico*, anno ii, v. 5, 6.

† *American Journal of the Medical Sciences*, March, 1891, p. 257.



facial tonsils five, for postnasal "adenoids" seven. Of this series of experiments and examinations all resulted negatively. No bacilli of tubercle were found in the sections and no tubercle developed in the guinea-pigs, though three died of septicæmia.

Of course these few experiments, twelve in all, and negative in result, are not presented to refute Dieulafoy's more extensive work; but even had I obtained any positive results in the animal experiments, I should not have been able to say that I escaped the criticism which Cornil offered to Dieulafoy's work. Bacilli in his cases might have existed in the crypts and on the surface of the tonsil and not in its structure. What I have said in regard to the presence of tubercle bacilli in normal respiratory passages adds force to this suggestion.

While these experiments were being carried on I was asked by Dr. Walter F. Chappell to see a case at the Manhattan Eye and Ear Hospital. He has kindly furnished me with a report of the history and a drawing of the clinical appearances in the case, taken from a paper read at the New York Academy of Medicine before the laryngological section, and published in the *New York Medical Journal* for September 19, 1896. On reference to his paper it will be noted that symptoms of tuberculosis of the nasopharynx followed within a week after operation for adenoids, the patient being exposed to infection by attendance on a sister dying of phthisis pulmonalis.

From the history, I am inclined to think that the patient already had a tuberculous focus in her nasopharynx at the time of the first operation. The supervention of the symptoms only a week afterward could hardly be attributed to primary tuberculous infection, as we do not get such a speedy reaction as this, even in guinea-pigs.

Dr. Chappell, however, I believe, is of the contrary opinion as regards this case. A piece of tissue was taken from the nasopharynx and given to me for examination, and upon it I was able to make the following report:

The specimen received from Dr. Chappell was a piece of tissue about ten millimetres in its long diameter and five millimetres in its short. Half of this was sent to Dr. W. H. Park, who inoculated two guinea-pigs with it. Dr. Park reports that one of the guinea-pigs died in twenty-one days of septicæmia, and showed in addition to this perfectly typical tubercle in the spleen and other organs, the tubercles containing bacilli. Four months later the second guinea-pig, which had presented signs of disease, was killed and found to be suffering from disseminated tuberculosis. The other half of the specimen was put in absolute alcohol, then in alcohol and ether, and imbedded in celloidin. Sections examined under a low power show a lymphoid tissue crowded with tubercle, presenting the picture shown in the plate (Fig. 1). Examined with higher power, the characteristic structure of tubercle with many giant cells may be seen, the areas of coagulation necrosis being shown as light

spots in the drawing. Sections were stained for tubercle bacilli. A few were found in two or three sections out of about forty examined. The bacilli were never more than one to a tubercle granulum, situated usually in the centre of it, and sometimes in a giant cell.

*Diagnosis.*—Miliary tuberculosis of lymphoid tissue.

Thus it will be seen that the methods used in the twelve unsuspected cases, with negative results, gave a positive result in a case that was clinically perfectly apparent.

I have had colored drawings made, and you will note in Fig. 1 the striking appearance of the miliary tubercle under the low power (A \*). I desire here to refer to a paper by Dr. Ricardo Botey in the *Archivos latinos de rinologia*, etc., December, 1895, on Two Cases of Amygdalar Hypertrophy with Larval Tuberculosis.

His experiences resembled my own very much. He had also found giant cells in the section of a tonsil, but thought of them only as an inflammatory manifestation. In nineteen other tonsils, especially examined for them, he found giant cells only in two, but never found the bacillus.

In two cases which he saw later he found the tubercle bacillus in tonsillar sections and got positive results by animal experiments, but in both these cases there was, to judge from the histories, ample evidence of pre-existing tuberculosis elsewhere. After this Botey inoculated ten guinea-pigs with tonsils from non-tuberculous cases and obtained negative results, except in one case which died of a pulmonary and splenic tuberculosis, but there was no tubercle at the site of inoculation. From his experiences he deduces the following conclusions:

"1. That there exist certain forms of amygdalar hypertrophy of a primary tuberculous character, impossible by simple inspection to distinguish from the common hypertrophy of those organs with which every one is familiar.

"2. This condition, which constitutes a kind of larval (*larvada*) tuberculosis in some cases and latent in others, is a serious menace to the organism and a danger for the future, more or less certain, according to circumstances.

"3. This larval tuberculosis of the tonsils is present, especially in adolescence, without the least pulmonary or intestinal lesion which would make us suspect the evil.

"4. In some rare cases it is possible to diagnosticate it in time, with the help of the microscope and of inoculations.

"5. It is probable that the majority of the cases of hypertrophic amygdalitis are not tuberculous, for although in our experiments there occurred ten per cent., nevertheless, we do not know the proportion of one to the other, and simple ocular inspection reveals nothing.

"6. This does not signify that all the cases of larval amygdalar tuberculosis, even supposing that they are diagnosticated opportunely, are surely followed by different cervical adenopathies, terminating in a pulmonary

phthisis. On the contrary, it is probable that in many cases everything subsides into ganglionic infarcts without the tubercular germs reaching later the pulmonary parenchyma," etc.

As for my own impressions in this matter: In spite of the recent evidence here presented, I am inclined, both from clinical and pathological evidence, to agree with Dr. Hochenpfl when he says that tuberculous amygdalitis is a rare affection, and that the tonsils are rarely the seat of primary inoculation.

Considering the chances of primary, and especially of secondary infection, it certainly is rather remarkable that these structures should escape so constantly as they do. Moreover, tubercle bacilli have been found in the bronchial and mesenteric glands of apparently non-tuberculous people. They have been shown to exist in these lymphatic structures by animal inoculation when they could not be demonstrated by the microscope. That the same thing should be demonstrated in tonsils should not be a matter for surprise, but we should expect it to occur more frequently than appears.

I want to take this opportunity of presenting a drawing of a section which is more directly connected with the subject of tubercular invasion of the larynx than of the lymphoid tissues, and I have had a colored drawing made on stone for the same plate as the drawing of the tuberculous lymphoid structure.

The question of tubercle bacilli penetrating through epithelial structures has frequently been discussed, and very frequently such penetration has been denied. Last fall, in examining sections from papillomatous tissue removed from a tubercular larynx in a patient far advanced in pulmonary and laryngeal phthisis, I met with the picture, which you see reproduced on the plate in Fig. 2.

You will note that a veritable stream of tubercle bacilli is pouring into and through the thickened, squamous epithelial covering of the laryngeal mucous membrane. The epithelial cells are swollen and cloudy. The evidence of the penetration of tubercle bacilli through epithelial cells is here perfectly apparent. It is said by Lake\* and others that pyogenic cocci first create shallow ulcers through which the tubercle bacillus finds its way. This would appear not to be the case in this specimen.

As to whether the tubercle bacillus can penetrate the normal laryngeal epithelium of a healthy individual, it may still be considered a matter of some doubt.

This laryngeal case of mine ran the ordinary course of pulmonary and laryngeal tuberculosis, and terminated fatally, I should think, in about nine months. The case of Dr. Chappell's was more rapid, terminating in less than six months with general tuberculosis.

In the latter case the lymphoid tissue contained so few bacilli, notwithstanding the large amount of tubercle, that it required prolonged search through many sections to find even one. The enormous number in the epithelium from the larynx made a striking contrast.

It is impossible at present to explain the difference. The results produced by the infecting organisms in the two cases bear no proportion to their numbers, and this fact is a good one to bear in mind in watching the results of the researches into the real etiology of tuberculous infection.

## UNRESOLVED AMYGDALITIS.\*

By HOWARD S. STRAIGHT, A. M., M. D.,

CLEVELAND, OHIO.

CASE I.—Five years ago, when in general practice, I was called to see a boy aged ten years, sick with an acute follicular amygdalitis of the left tonsil only. There seemed to be nothing unusual in the case in any way. Aconite and acetanilide and a chlorate-of-potassium gargle were prescribed. A second visit was made twenty-four hours later. At the second visit the case seemed to be progressing favorably, and the next visit was made two days later. When seen the third time the left tonsil was still inflamed and swollen, but the more acute symptoms had passed away. Knowing that the family considered further visits unnecessary, I advised the continuation of a little quinine for a few days, and also requested that I should be notified if he did not progress favorably. Four days later I was again summoned. The swelling and tenderness of the throat had not pursued the ordinary course. At 1 p. m. his temperature was 100° F. and pulse 108. The swelling of the left tonsil was much more marked than it had been at any time during the first four days of his illness. The appearances suggested possibly a circumtonsillar inflammation with or without an accumulation of pus. The tenderness upon swallowing was marked. He had not been able to take anything but liquid food since the beginning of the illness.

A digital examination revealed no fluctuation, but a marked induration of the tonsil and circumtonsillar tissue, extending even to the tissues of the hard palate on the left side. I examined the boy's chest and found at his right apex a localized capillary bronchitis—an apex catarrh. He was given drop doses of creosote every hour, and all other treatment discontinued. In one day his throat was very greatly improved; all the symptoms of the local condition from this time passed away like snow in the sun. For a number of weeks I kept him under observation. The diagnosis as to the condition of the right apex was correct. After taking his creosote and tonics for a few weeks his parents considered him well, and discontinued treatment. After a few weeks he returned and after re-examining his chest and finding the same conditions still present he was put back again upon the former line of treatment. The boy slowly recovered from the constitutional condition, the local manifestation of which was the slight catarrhal condition at the right apex.

CASE II.—On February 15, 1896, a sewing girl, aged twenty-one years, consulted me as to her throat. She had markedly enlarged tonsils and adenoid growths. Her pulse was normal, and there was nothing in her history to cause suspicion of any necessity for constitutional treatment. The tonsils were removed by excision upon Saturday night and the girl was instructed to remain quietly at home until the following Monday. The next Saturday the adenoids were removed, and the

\* *American Journal of the Medical Sciences*, 1895, i, civ, p. 107.

\* Read before the Northern Ohio Medical Society, July 8, 1896.

patient again confined to the house for thirty-six hours. I saw her a few times only. Within a month of the time of coming under observation she was discharged. All this time I had no suspicion that the patient needed any constitutional treatment. Four weeks ago the patient presented herself, complaining of her left tonsil. Her pulse was about 100. Her temperature was not taken.

Her right tonsil showed nothing. The pharynx was also normal. The stump of the left tonsil was slightly swollen and a little reddened, but the change from the normal was so slight that I considered it merely the slight irritation of the tonsil that occurs so often as a part of an acute cold, and is of too little importance to call an amygdalitis. The patient made a good deal of complaint, but as she is a querulous, ignorant girl, and the throat showed almost nothing, I failed to realize the real extent of her suffering. I gave her one-tenth-grain doses of calomel every two hours, and suggested that she return in twenty-four hours. One day later she returned. She complained as much as ever, although there was little change in the condition of the left tonsil. I then gave her some sodium salicylate every two hours and discontinued the calomel. In two days she returned. The patient complained more than at any time thus far, and the swelling and redness of the tonsil were more marked than before. At this visit the sodium salicylate was continued, and the patient was directed to use an application of very hot water to the tonsil, according to the method of Dr. Charles W. Smith, of Cleveland. The method consists of rolling a large mass of cotton on a heavy probe, and, after dipping the cotton in water as hot as can be borne, in applying the heat directly to the tonsil. For two days she remained at home, for up to this time she had continued her ordinary work, and applied the hot water to her throat. At the end of this time—that is, five days after her first visit—she returned. Her throat was still in much the same condition as when the first and second visits were made, but was much better than two days before. I now gave her a placebo, and told her that the tenderness and swelling of the tonsils would soon pass away. In three weeks she returned. She said that the swelling and tenderness had never left her throat, and that she had been unable to take much food, except liquids. An examination of her throat revealed the left tonsil still swollen and reddened—a little more markedly than when last seen. I now awoke to the fact that this simple sore throat was pursuing a very different course from the ordinary. Her temperature was 99.6°, her pulse was 84. I sought an explanation of her case in the chest and found a slight catarrhal condition at each apex, and upon each side in the lower portion of the infralavicular region. I now gave her three minims of beechwood creosote, four times a day, and a thirtieth of a grain of strychnine sulphate. Within four days the tenderness and swelling had entirely disappeared. Under this treatment the tonsil was much improved in twenty-four hours.

The boy (Case I) was apparently a healthy little fellow. Apex catarrh occurs in children as young as this patient, though not so frequently as in older children or patients in middle life. There was nothing in this case to excite any suspicion of any such constitutional condition. The inflammation of the tonsil up to the time when I ceased calling at the house was in no way different from what one would expect in such a case. For the next

four days the course of the disease was altogether anomalous, and only explained by the condition of the chest, from which the child had been suffering, it may be, for weeks before the onset of the acute amygdalitis.

When this patient (Case II) first visited me I believed I was dealing with a simple follicular amygdalitis in a healthy person. I had no idea as to whether the slight inflammatory condition present in the left tonsil would remain stationary, progress, or recede promptly. Any one of these possibilities may occur. If treatment has anything to do with arresting further spread of the disease, or possible occurrence of the same inflammatory condition in the other tonsil, I am unaware of the fact. I have no objection to the use of sodium salicylate, and I use this remedy oftener than any other; and yet, whether cases do better on salicylates than they do upon aconite or vertrum viride or calomel or nothing at all, I have my grave doubts. I confess to a great skepticism as to the real value of anything in acute follicular amygdalitis in healthy patients. The time element seems to me to be all-important, and there is little to do that is absolutely essential for a few days except to relieve in so far as is possible the sufferings of a patient by means of anodynes, coal-tar products, or hot or cold applications. I gave small doses of calomel and awaited developments. It certainly could do no harm to attempt to re-establish the secretions of the body in an acute cold. At the second visit, thinking she had had calomel enough, and also taking into account the possibility of a rheumatic influence in simple sore throat, I gave her sodium salicylate. If rheumatism has any special influence in such cases I have never yet been able to demonstrate the fact to my satisfaction. Little importance was attached to the fact that the throat was no better, or possibly a little worse, than when first seen. On the third visit, at which time the throat was worse than at any previous time, I thought that in this case the disease was progressive and that the worst stage had been reached. The hot water was ordered, first, because I believed it to be a wise measure and also to gain time, for I confidently expected all symptoms to subside in a day or two. Her improvement at the fourth visit must have been due to the use of the hot water, although the tonsil had not returned to the normal at this visit. What other possibility could one reasonably expect in a short time? The placebo was given to satisfy the patient for a few days longer, as time was considered the all-important factor in her recovery.

In the first case, non-resolution of the tonsillar inflammation was the marked feature. I question whether if a localized capillary bronchitis had been suspected, and the case examined early, a positive diagnosis as to the condition of his right apex could have been made. The diagnosis of an early apex catarrh is difficult enough in adults, but much more difficult in children. Any acute trouble, with rapidity of pulse and fever and increase in the rapidity of respiration, makes



the diagnosis still more difficult. The earliest physical sign in apex catarrh—transfer of heart sounds—may be easily overlooked in a child, or considered to be due to overaction of the heart. The next earliest physical signs are rough and irregular breathing. Rough breathing occurs normally in children, and whether this normal condition is slightly exaggerated or not is not easy to decide. The localized irregularity of respiration, so important in adults, is also much more difficult of positive detection in a child. A positive diagnosis is often impossible. If in doubt, a little benzosal can be given, and the child watched until a positive diagnosis can be made. The history also, so important in adults, in the majority of cases is not equally helpful in children. As a rule, the disease seems to be more acute in onset and more rapid in recovery in children than in adults. As long as a child plays and has a fair appetite his condition excites no attention. The whims of childhood are so many and so like the early symptoms of a developing apex catarrh—irritability of temper, slight gastro-intestinal disturbance, fitful appetite, and drowsiness—that little is thought of his condition. Sometimes the mother can remember that some of the symptoms enumerated were observed. If it is possible to obtain any history as to the child's condition before the onset of whatever acute disturbance occurs for which the physician is summoned, the mother is most apt to remember that the child's appetite was not so good as usual or that he played less than usual. The feature of non-resolution was also pronounced in the second case. While the disease was less acute in onset than the first, although in appearance and course exactly like many a case of acute follicular amygdalitis up to the time of dismissal, resolution failed to occur when ordinarily expected. The subjective symptoms of the patient were also out of all proportion to anything that could be detected in the local lesion. An explanation of this fact was thought to be the patient's querulousness. The history in this case was all-important. Had it occurred to me that an abnormal constitutional condition was present, my suspicions would have at once been aroused. The course of the disease was so much like the ordinary that I was completely blinded. The general appearance of the patient contributed not a little to allaying a suspicion I always entertain in a patient in middle life who consults me as to a disease of the ear or upper air-passages. She looked well and her color was good. She showed no more gastro-intestinal disturbance than one would expect from her acute trouble. Upon close questioning, when she returned three weeks after being discharged as cured (?) from the acute amygdalitis, she told me that before the onset of the acute trouble she had felt very much tired out and that she had lost a few pounds of flesh within the last three months. If these two facts had been ascertained when she first presented herself complaining of her tonsil, my suspicions as to her chest would have at once entered my mind. Had I at this

first visit prescribed benzosal or creosote or guaiacol for her, and overlooked entirely any treatment for the tonsil, I would have saved the patient three weeks of suffering and myself a deserved humiliation. If I had the reputation of giving little thought to the importance of apex catarrh in diseases of the ear and upper air-passages, if I had not insisted in season and out of season upon the importance of this constitutional condition in Cleveland at least, any such error on my part could be more easily explained. As to the pathology in a case of this kind I have little to say, for it seems to me that the pathological process is no different from what it is in acute follicular amygdalitis in a healthy patient, but that for some reason the products of inflammation fail to be absorbed. I am equally at a loss to explain the wonderful improvement that occurs as soon as the patient is given some form of creosote. I do not wish it to be understood that every case of acute follicular amygdalitis in a patient suffering from apex catarrh pursues such a course as the cases reported. A certain proportion do pursue the anomalous course referred to, and they are difficult to understand if studied from the local standpoint only. The treatment early in the course of the disease need be no different than in the ordinary case, and yet the giving of benzosal in small doses could do no harm if there is any suspicion of a localized bronchitis. Neither could any harm result from the administration of benzosal if, after treatment with the ordinary remedies for a few days, the tonsillar inflammation fails to pass away. By so doing, the patient is given the benefit of doubt in any event. If, after acute follicular amygdalitis in which benzosal is given on the suspicion that it was necessary, the patient's temperature and pulse are carefully observed and an examination of the chest is made and nothing found, the remedy can be discontinued. In such a case it was as good as any remedy with which I am acquainted. On the other hand, if a localized bronchitis is found, the best possible remedy, in my opinion, has been administered. The purpose of my paper has been accomplished if the necessity for a careful examination of the chest in cases of unresolved amygdalitis has been impressed upon you, and, indeed, in any disease of the ear or upper air-passages.

THE HICKOX.

## A NEW METHOD OF TREATING INCOMPLETE ABORTION.

By ANNA M. STUART, M.D.,

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ONE of the most trying offices which the general practitioner is called upon to perform is the treatment of incomplete abortion. Self-induced abortion is frightfully common among the lower classes of the community, the same woman repeating the crime year after year. Since, according to the traditions of the laity, any interference is safe at the period of two months, they

task their ingenuity to perform barbarous operations upon themselves at this time. The male rubber catheter, a sharp trocar, a corset steel, a crochet needle, are all instruments thought safe enough to introduce within the uterine cavity. If "nothing comes," the operation is repeated day after day. And what is most surprising to the physician who has been brought up with a just dread of all dirty instruments on all occasions is that spontaneous recovery is the rule, and that the majority of cases never come under surgical care, unless for chronic pelvic diseases, which invariably follow such abuses.

But, occasionally, domestic surgery makes a failure, and delivery is incomplete. The uterus is inert and refuses to expel the secundines, bleeding continues, and the woman becomes frightened by the chills, fever, and vomiting. Then, and not until then, she seeks medical aid. She wants help, but she does not want to confess her part in the affair, and only most skillful questioning will succeed in drawing it from her. Even then she will falsify the history most tryingly in some detail. She wants relief as speedily and as quietly as possible, and she is often unable to go to a hospital or a specialist.

It adds much to the safety of the physician's reputation if the woman can be induced to explain the matter to her husband or some other member of her family before any treatment is undertaken.

I have been employing a method in these simple cases which seems rational, and is ordinarily safe to try for the first twelve hours. If successful, it is much easier both for physician and patient than the full dilatation of the cervical canal and the manual extraction of secundines with finger, curette, or placenta forceps. Moreover, it can be performed without disturbance in the household, without family assistants, and without anaesthesia.

I always bring a medical friend, but the work could be done single-handed.

The woman is placed crosswise of the bed (made as hard as possible) in dorsal position on a Kelly cushion. The external parts and vagina are thoroughly washed with green soap and warm water, and the hair trimmed off. This is followed by an antiseptic vaginal douche. The bivalve speculum, freshly boiled, is inserted and opened, and the screws are set. The internal os is usually patulous enough to admit Bozeman's intra-uterine douche. Through this a hot creolin solution is allowed to flow, always watching to see that the return current remains free. Then all loose clots and *débris* are removed by the dull curette. The cavity is again washed, and this process is repeated until nothing remains but the firm decidua tissue, which clings to the uterine wall and could not be removed without much dilatation, causing much pain to the patient. The hot creolin solution is an excellent hæmostatic, and is allowed to flow until it returns white.

Finally, the uterus is packed from the fundus to the external os with iodoform gauze prepared by myself. It contains more iodoform and more sterilized glycerin than the commercial article. The first gauze is withdrawn, thereby wiping out the cavity, and a second piece is firmly placed so as to stop all hæmorrhage.

The patient will usually endure this treatment without a groan. She is now put back to bed and given quinine, strychnine, and sometimes repeated doses of ergot. If pains come, she is told to endure them, and no opiate is allowed.

Now, what happens is this: The inert uterus is stimulated to contract. The blood, unable to escape, distends the cavity and flows in between the decidua and the uterine wall, dislodging the former. Finally, the internal os dilates, the gauze is expelled, and with it all the uterine contents.

Another creolin intra-uterine douche, and if endometritis exists the gentle use of the sharp curette and a gauze drain, complete the work.

Contraction and involution of the uterus go on rapidly.

**CASE I. Spontaneous Abortion.**—Mrs. S., aged twenty-six years; one child, aged fifteen months; menstruated three months ago, while nursing; had been suffering for a month with irregular discharge, pallor, and cachexia; was suddenly taken with chills and nausea. Temperature, 100°.

The uterine cavity was washed and packed as detailed above. A small hypodermic of morphine was first given to quiet her. The work was done in the evening. She slept well all night. In the morning a few pains came on, the gauze was found expelled, in company with a firm, round decidua in the vagina. Five days later a foetid discharge was noticed. Although the woman was feeling well, with temperature and pulse normal, the speculum was again inserted.

The rather large cervix was found filled with putrefying blood clots. These were removed, the uterine cavity thoroughly but gently curetted, and a gauze drain left in.

If the gauze had been put in after the first was expelled, I think the accumulation of blood clots would have been avoided.

Recovery was rapid, the gauze was expelled in thirty-six hours, and all discharge ceased.

**CASE II.**—Mrs. H., aged twenty-three years, no children; had had an abortion performed a year ago by a doctor on account of retroflexion with adhesions. Had been ill five days; admitted committing abortion by means of a crochet needle, repeatedly introduced; severe rigors; temperature, 104°. She was treated in the same manner. Her uterus was packed; contraction pains came on, accompanied by rigor, feeble pulse, and numb extremities. Stimulants were given, a reaction followed, and temperature rose to 106°; pulse, 120. Temperature fell during the afternoon slowly to 101°. Contraction pains continued, with more or less respite, for eight hours. Then gauze was expelled and decidua found lodged in the cervix, so as to be easily removed with the dressing forceps. Bleeding and pain ceased, and temperature was normal on third day. Rapid recovery.

In contrast to the foregoing I give the following:

CASE III.—Mrs. L., aged thirty-two years, three children; one previous self-induced abortion. Said she had passed two menstrual periods, had had chills and vomiting for two days. Temperature, 102°. Confessed to inserting some sort of instrument.

She was placed on a table in Sims's position, the internal os was freely dilated with much pain, and finger, douche, and curette were used to remove the uterine contents. The cavity, finally supposed empty, was washed and packed with gauze. Pain continued, and the next morning I was called on account of hæmorrhage, which was most alarming to the patient and friends, though not really serious. The gauze was found expelled and an overlooked piece of decidua tissue lodged in the cervix. When this was removed bleeding ceased. Recovery and involution of the uterus were slow.

This case, of course, shows failure in the first operation, but it also demonstrates the value of the gauze packing to bring on uterine contractions and the expulsion of the remaining contents.

The hæmorrhage was due to forcible dilatation of the os and rough handling of the soft uterus, together with failure to remove the entire contents.

#### THE SEQUELÆ OF SYPHILIS IN THE PHARYNX AND THEIR TREATMENT.\*

By J. E. H. NICHOLS, M. D.

WHILE, as a rule, the tertiary manifestations of syphilis in the pharynx heal kindly under treatment by mercury and the iodides, there is a proportion of cases in which the results of the disease are most persistent and annoying. We find changes in the soft palate, the uvula, the fauces, the posterior pharyngeal wall, the tonsils, and the epiglottis.

The destruction of tonsillar tissue can be very extensive without leaving any results detrimental to the patient, because its situation permits such destruction. The lingual tonsil, of the same tissue as the palatal tonsils, and subject to the same laws, has also been observed by Labit (*Revue de laryngologie*, 1891), Moure, Raulin, and others, to be the seat of syphilitic lesions, but, like its fellows, has yielded readily to treatment without any annoying results. No cases are reported in which distortions or obstructions either to deglutition or articulation have been observed.

The uvula is frequently subject to extensive ulceration, and may even be entirely destroyed without impairing the efficiency of the pharynx.

Perforations of the soft palate and the faucial pillars are not uncommon. These are of a more serious character on account of their interference with proper articulation and the discomfort caused by the regurgitation of

liquids into the nasopharyngeal cavity. I have recently seen a man of forty-five, a master mason, whose occupation requires him to call in a loud voice from the upper floors of buildings to the workmen below. His initial lesion took place twelve years ago. Four years ago, following a period of debility, a perforation of large size occurred in the right side of the soft palate, extending down into the posterior faucial pillar. The perforation was oval in shape, with its long diameter parallel with that of the pillar, and about two centimetres in length. His articulation was so indistinct, in consequence of the escape of air into the nasopharynx, that he could not be understood by his men, and he was obliged to give up his place and work as a day laborer. The edges of the opening were pared, under cocaine, and brought together by wire sutures. Perfect closure followed, and the man has been able to obtain his former position.

Ulcerations and malformations of the epiglottis resulting from syphilis are more common, but, unless excessive, are not of great importance. The entire epiglottis may be destroyed without serious inconvenience to the patient, because of the tolerance acquired to its absence. Occasionally the ulceration has been in such a situation that an adhesion between one side of the epiglottis and the interior faucial pillar ensues, causing a partial stenosis of the larynx. Such a case is now under treatment, in which the base of the tongue and the epiglottis are drawn upward and backward, causing considerable difficulty in articulation by limiting the motion of the tongue.

The most annoying sequel to syphilis in the pharynx is the formation of adhesions between the posterior faucial pillars, the posterior edge of the soft palate, and the wall of the pharynx, causing a partial or complete stenosis of the rhinopharynx. Extensive and coincident ulcerations of these parts are common, and when the subject is not placed under thorough iodism contractions are apt to follow on account of the approximation of the two surfaces at an acute angle. Internal medication is of more value in bringing about resolution than strong topical applications. Several cases observed lead to the belief that if the powerful caustic applications used had been withheld, and bland washes employed, no adhesion, or at least less extensive adhesions, would have followed. In one case pure nitric acid was used by the attending physician, with the result of setting up a deep submucous inflammation and a complete stenosis.

The discomforts of such formations are very great. Nasal breathing is entirely abolished and mouth-breathing substituted, with its sequelæ of dryness, laryngeal irritation, and pulmonary complications.

The voice is seriously affected, its resonance abolished, and its unpleasant, stuffy quality rendered most annoying to the patient and those with whom he comes in contact conversationally. Furthermore, the traction exerted by these cicatricial formations on the orifices of the Eustachian tubes and the disturbance of the equilib-

\* Read before the American Laryngological Association at its eighteenth annual congress.



rium of air pressure in the nasopharynx bring on most unpleasant aural complications, to which must be added the danger of acute catarrhal infection from the dammed-up secretions of the curtain. Again, the expiratory air current being shut off, the nasal secretions accumulate in the form of tenacious masses of muco-pus, which the patient can not expel except by gravitation and the use of cotton swabs or intranasal douches. There being no inspiratory current of air, the sense of smell is impaired or abolished, and all the proper functions of the nose are rendered useless.

In the treatment of these adhesions great ingenuity has been exercised in trying to find some surgical method which would produce a permanent opening. In the great majority of cases no success was had, the openings made closing by contraction after a period of time varying from a few weeks to two years.

Labit says "it must be frankly acknowledged that no means has been yet found which will afford permanent relief." Mackenzie says "though great relief can be afforded to the patient as long as he remains under treatment, no cure can be predicted, as the stenosis always returns when mechanical measures are suspended." Scheck says that "the results, as regards improvement and restoration of speech, are generally very unsatisfactory." These opinions are shared by Cartaz, Lichtwitz, Hajek, and other recent writers who have reviewed the subject.

A short recapitulation of the means which have been used will be useful. Elsberg separated the parts by means of a blunt-pointed staphylorrhaphy knife, forcibly dilated with the finger, and had the patient use daily a hard-rubber palate retractor to prevent readhesion.

Dieffenbach, after incision, drew the soft palate forward as far as possible by means of a ligature passing out of the mouth and fastened to the ears. Others, after incision, inserted tubes or rings of lead, metal, or rubber of appropriate shape and size, kept in position by being suspended from two strings passed through the nostrils, or by spring clips fastened to the teeth, or by suction in the roof of the mouth, as in case of a dental plate. Others have used sponge tents, hard and soft brushes, air bags, etc., while others yet have striven to do plastic operations of various kinds. At the present time these measures have largely given way to the repeated use of the galvano-cautery knife and subsequent digital or mechanical dilatation.

Lichtwitz reports a case of the last-mentioned method (*Ann. des mal. d'oreille*, 1894, 815) in which he was able to keep the passages open by constant dilatation with a No. 30 F. bougie.

Conetox (*Ann. des mal. d'oreille*, 1893) and Kuhn (*ibid.*, 1892) have introduced a method by which a large opening is made through the soft palate just behind the osseous palate and anterior to the uvula. In this opening is introduced what they term a "plaque à cheminée," which holds itself in place by the contraction of the

edges of the opening, and allows nasal breathing. This appears to be the best mechanical device yet found for overcoming the closure.

But all these operations and practices have one defect in common, fatal to their success, and which allows the reproduction of the original method of the adhesion. The defect is that no matter how deep the incision has been made, or how much tissue has been excised, or how strong or persistent dilatation has been exercised, the cicatricial tissue steadily advances in the process of healing from the bottom of the cut. If the denuded surface were to heal at once through its entire extent a simple incision would be sufficient to cure the most obstinate case. But this never occurs. Whether the denuded surface be cutaneous or mucous, healing always begins from the apex and progresses toward the edge, by this means gaining support for the new formation from the healthy surface behind it. This is a chief characteristic of cicatricial tissue and the very cause of the adhesions we are considering, so that in our endeavors to cure we are simply subjecting our patients to an alternation of cause and effect. As a means of obtaining a permanent opening, several years ago I devised the operation which I will now describe, and which has accomplished the end sought for. My excuse for making further mention of it is that time and experience have demonstrated its practicability, that it is not a complicated operation, and that it is not as well known as I would like to have it.

To be brief, the similarity of this condition to that known as web finger presented itself, and it occurred to me to adapt to this class of cases the well-known operation of inserting a ring through the web at the base of the web, leaving it there until cicatrization had taken place around it, and then cutting through the web and leaving the edges to heal, reunion being always prevented by the presence of the narrow strip of cicatricial tissue at the base of the cut. The application of this method proved to be successful, and I have now notes of thirteen cases in which it has been tried with complete success, and one in which it proved a complete failure. Of these thirteen cases, only one was non-syphilitic; but I shall give the history of that one also as showing the result of a single operation on a healthy subject. In the other cases resort was had to the operation several times before relief was afforded. The failure was in the person of a negress, subject to an ultra-severe infection of syphilis, in whom every effort at repair was nullified by destructive ulceration, and whose habits and surroundings were such as to preclude any hope of ultimate success. In order to render the operation intelligible a brief recital of the various steps may be made. The instruments necessary, which were made for me by the Ford Surgical Instrument Company, consist of two right-angled curved staphylorrhaphy needles, right and left, two small cervix hooks, a pair of long angular mouse-toothed dressing forceps, and a pair of angular scissors.

In addition to these, two delicate probe-pointed knives, with razor edge and back, the cutting projection bent at right angles three fourths of an inch from the tip, and this portion gradually increasing in width from the tip to the angle. The knife is mounted with a round shank, four inches in length, inserted in a suitable handle of the same length. Carbolized surgeons' silk, Nos. 13 and 14 or 16, is also needed.

The steps are as follows: The parts are thoroughly cocaineized from above and below. There is no case reported in which a slight opening has not been found. Usually it is present posterior or to one side of the uvula. The curved needle, threaded with a long length of the finer silk, is then passed through this opening, care being taken not to wound the membrane. The point is then in the nasopharyngeal chamber above the adhesion. It is then carried as far laterally as the radius of the curve will permit, and brought down through the adhesion as far back as possible and on a plane parallel to the pharyngeal wall. When the point appears through the adhesion the loop of thread is engaged in the hook and pulled out into the mouth and the needle withdrawn. To the end passing through the central opening is then attached a length of the thicker, heavier silk braid (No. 16). Traction is then made on the other end of the thread, and, using the forefinger as a guide, the braid is gradually drawn through the canal made by the needle. The braid should be long enough to allow ease in tying. The two ends are then tied in a square knot (not a "granny" knot, which will soon undo) near the tissue inclosed in the loop, but not close enough to strangle it. When the double knot is firmly tied, the ends are cut off, and by a process of coaxing with the hook, the loop is pulled around until the knot passes up through the central opening into the nasopharynx, where it is not a source of annoyance to the patient.

This loop is left in position for a period of a week to two weeks, according to the rapidity of healing. The movements of the pharynx prevent its becoming attached at any point. At the end of this period the little canal in which the loop lies will have become cicatrized and firm tissue. The loop is then cut and withdrawn, leaving the canal free. The parts are then douches with an alkaline solution and cocaineized. The right-angled knife is then pushed carefully through the cicatricial canal with its edge toward the median line, and the tissue intervening between it and the central opening is cut through, care being taken not to injure the tissue lying at the back of the knife. The parts are then kept clean for a few days, when healing will have taken place along the cut edges; but they will remain separated because of the narrow band of cicatricial tissue at the apex of the cut, and the nasopharynx will be opened by just so much as the depth of the incision. It may be necessary to repeat the operation several times on each side until the required space is obtained. One must look for a small amount of contraction afterward, but the passage always

remains free and functionally adequate. In all the cases which have been operated on the resultant opening has been large enough to admit freely a No. 3 laryngeal mirror. After the first operation, while those in which a second or third operation has been done, secure permanent opening admitting a No. 5 mirror, or approximately the size of a normal passage.

## MOTOR PARALYSIS OF THE LARYNX.

By J. H. McCASSY, M. A., M. D.,  
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CASE I. *Thyro-arytenoid Unilateral Paralysis*.—Mr. V., aged twenty-two years, a salesman in a bicycle store, in April, 1896, started on a trip a distance of sixteen miles, with two experienced bicycle riders. When he reached the destination he fell from his wheel and almost collapsed. He was overheated, being drenched with perspiration. In this condition he drank a quart or more of water. A heavy cold followed, and he was confined to bed for over two weeks with laryngitis and gastritis. The latter occasioned frequent vomiting. During all this time his voice was lost, which was attributed to acute laryngitis. He recovered his physical health fairly well in about a month and returned to work, but was of little use as a salesman, with only a whispering voice. Then the writer was consulted. The laryngoscope showed congestion and infiltration of the larynx, particularly the arytenoids. The left vocal cord failed to approximate by an eighth of an inch on attempts at phonation. The unmolested right vocal cord not only came to the median line, but went slightly beyond it on attempts at phonation.

Treatment.—Strychnine, in pill form, commencing with a tenth of a grain daily, which was soon increased to a third of a grain daily. The faradaic current of electricity was applied for ten minutes daily by sponge electrodes. The anode over the larynx and cathode to the nape of the neck and the side of the larynx. A spray consisting of ten grains of zinc sulphate to the ounce of water was used daily on the pharynx and larynx, also a spray of alcohol with a little carboic acid and eucalyptus. Under this treatment the voice had greatly improved in three weeks, and fully recovered in six weeks.

CASE II. *Thyro-arytenoid Unilateral Paralysis*.—Mrs. F., aged thirty years, a private tutor, was referred to the writer by Dr. Pettit, of Dayton, for examination. For many years the patient had been threatened with pulmonary tuberculosis, and she frequently sought a change of climate for the benefit of her health. Dr. Pettit feared the development of tuberculous laryngitis. The voice, save a whisper, was almost totally lost. The laryngoscope showed catarrhal laryngitis, slight enlargement of the arytenoids, and non-approximation of the left vocal cord, on attempts at phonation, by an eighth of an inch. Upon the suggestion of the writer, Dr. Pettit administered a tonic of quinine, iron, and strychnine, with a preponderance of the latter. The following sprays were used daily on the larynx and pharynx: Alkaline, Seiler's, ten grains of sulphate of zinc to the ounce, and alcohol, with a little carboic acid and eucalyptus. The voice was restored fairly well in three weeks, but still better in six weeks.

CASE III. *Chronic Bulbar Paralysis and Insanity*.—Mr. H., aged forty-seven years, a native of West Vir-



ginia, was an inmate of the State insane asylum at Topeka, Kan. He was married and the father of two children. His occupation was that of a bricklayer. The record of the probate court gave heredity as the cause of his insanity. He had suicidal tendencies. Among the first symptoms noticed were impaired articulation; embarrassed speech; imperfect movements of the tongue; failure to whistle or whisper; saliva dripping from his mouth; dysphagia, particularly for fluids; lodgment of his tongue at the bottom of his mouth, and, finally, loss of speech, which occurred a year prior to death. This disease is almost always chronic in its nature, attacking male adults. Prognosis is very unfavorable. The cause of bulbar paralysis in this case was attributed to exposure to cold, undue anxiety for his family, and prolonged physical exertion in his trade as a bricklayer. Death came August 4, 1890, by gradual asphyxia.

The treatment was good diet, good hygienic surroundings, and tonics of quinine, iron, arsenic, strychnine, phosphorus, etc. When deglutition became impossible he was fed with a stomach tube. The autopsy showed atrophy and gray discoloration of the medulla and the gray nuclei in the floor of the fourth ventricle, involving the roots of the facial, trifacial, hypoglossal, glossopharyngeal, spinal accessory, and pneumogastric nerves.

CASE IV. *Bilateral Paralysis of the Lateral Crico-arytænoid Muscles due to Hysteria.*—Mrs. D., aged twenty-two years, a dry-goods clerk, consulted the writer in April, 1891. Four years prior to this she had sustained sudden loss of her voice. Treatment under an eminent general practitioner failed to restore it. About six months after she lost her voice she was agreeably surprised to find sudden and complete restoration of it while entertaining guests one day. About eight months after this, on arising one morning, she was horrified to find herself unable to speak save in a whisper. Three years had elapsed, and although she had been under treatment of several eminent general practitioners, her voice had not returned. She said a Cincinnati throat specialist had advised her that treatment would be useless, and she gave up in despair. She suffered occasionally with slight cough. She continued to fill her position as clerk in the store. The laryngoscope showed subacute laryngitis; the vocal cords were freely movable, but failed by a twelfth of an inch to approximate on attempts at phonation.

The patient was delicately and sensitively organized; was anæmic, and in rather frail health. The writer has no doubt but that this patient will some day, in less than ten years, recover her voice.

CASE V.—Miss M., aged twenty-eight years, had lost her voice two years before. The laryngoscope showed her larynx to be paler than normal and non-approximation of the vocal cords by an eighth of an inch on attempts at phonation. It was ascertained from the friends of this patient that her sexual functions had become perverted. This is of frequent occurrence in cases of hysterical aphonia. In both these cases the patients suffered from slight cough.

The inferior (recurrent) laryngeal nerves innervate all the muscles of the larynx except the crico-thyroids and the two little depressors of the epiglottis. These are supplied by the superior laryngeal nerves. The arytænoid muscle is supplied by both nerves. The superior laryngeal and the inferior (recurrent) laryngeal

nerves are branches of the pneumogastric and receive motor filaments from the spinal accessory nerves. Of course these nerves have sensory fibres, but for practical and clinical purposes they are motor nerves. This motor innervation produces physiological movements in the larynx, as abduction, adduction, and tension of the vocal cords. Motor paralysis of the larynx may be caused by, first, disease or injury of the brain, particularly about the floor of the fourth ventricle and medulla, where the nerves supplying the larynx have their origin, as in Case III. Second, injury of, or pressure upon, these nerves outside of the cranium, as in Cases I and II. (The lesion was peripheral in these cases.) Third, abnormal conditions of the muscles of the larynx, whereby contraction is prevented. Fourth, systemic disease, which debilitates the muscles of the larynx, rendering them unable to respond to nervous influences, as in Cases IV and V.

It would be impossible to have a central lesion as the cause of a unilateral paralysis of the vocal cords, because the nerves supplying both sides of the larynx are branches of nerves having a common central origin. Injury or pressure upon both of the recurrent laryngeal nerves, outside of the cranium, could cause extensive bilateral paralysis of the larynx, but this would be a rare condition. Central lesion is the most common cause of extensive bilateral laryngeal paralysis.

32 WEST FIFTH STREET.

## A CASE OF MYXEDEMA OF THE THROAT.\*

By JOHN W. FARLOW, M.D.,  
BOSTON.

Miss A. B., aged forty-six years, consulted me two years ago and gave the following history: Her family had always been healthy. At the age of twelve she had chorea and rheumatism, and thinks the heart was slightly affected. Eight years ago she suffered from hoarseness, which lasted a short time. Her speech has gradually thickened the last four or five years, but there has been no trouble in swallowing. She has had to keep the mouth open, because there has been much difficulty in breathing through the nose, and is a very bad sleeper and snorer. Much thin mucus flows from the mouth. She says people do not recognize her, as she looks so swollen in the face and her skin is darker. The eyes project somewhat, and she is thin and stiff under the lower jaw.

She has grown weaker the last two years, and has lost about fifteen pounds, weighing now a hundred and eighty-five. There are dyspnoea and quick respiration, 30 to the minute. The appetite, digestion, and bowels are normal. Menstruation has been normal, but is now disappearing. She is nervous, and the hands and feet twitch. There is no itching. She used formerly to sweat, especially about the head, and still does so somewhat.

\* Read before the American Laryngological Association at its eighteenth annual congress.



The hair is not dry and has not come out to any extent. She thinks her memory has failed the past year. There is nothing abnormal in the urine. The dusky, swollen, stiff face, with open mouth and noisy breathing, were very noteworthy. There was nothing abnormal on anterior nasal inspection. The tongue was swollen and thin and tended to protrude. The soft palate, uvula, and posterior pillars of the fauces were very much swollen, tense, thin, and rigid, but were smooth, symmetrical, and the two sides equally affected. The color was a little pale and there was no ulceration. The same condition was on the posterior pharyngeal wall, except in the median line, and extended up behind the soft palate into the postnasal space like two inflated bands. The swelling did not reach much below the tip of the epiglottis. There was nothing abnormal of the larynx and the thyroid gland was not felt. There was a marked systolic murmur heard all over the heart, especially noticeable over the apex. Pulse, 108.

The great swelling of the uvula and soft palate and the bulging forward of the posterior pharynx served to obstruct the passage of the air through the nose and postnasal space, and was a cause of great discomfort. The swollen tongue and rigid palate caused the speech to be slow and indistinct, and the shutting off of the nasal cavities gave a dead character to the tones.

No serum escaped on puncture of the swollen tissues, so that it was evidently not a serous oedema. There were no nodules of infiltrating new growth, and there was no ulceration. A small piece removed from the pharynx showed an unusual amount of mucous tissue, but nothing else abnormal.

The symmetry pointed to a general and not a local cause, and its long continuance (it had changed but little in appearance in two years) excluded nearly every possible cause. The kidneys were not at fault, and, as there was no oedema elsewhere in the body, it was not likely that the condition in the throat was due to the cardiac trouble.

There was no history of specific disease and specific treatment had no effect.

The only thing that could explain the phenomena was myxœdema, although many of the general symptoms were wanting. The discomfort of which the patient complained was entirely due to the swelling in the throat.

J. D. Gimlette, in his work *Myxœdema and the Thyroid Gland*, London, 1895, page 22, says: "Like the skin, the mucous membranes are altered, as is well seen in the mouth, the soft palate, uvula, pharynx, gums, and tongue, swelling and becoming pale and characteristic. A thick, mucous discharge from the mouth at night has been noticed. The oedema of the mouth may interfere with respiration, and also with swallowing, since slight difficulty in deglutition is not at all uncommon in myxœdema."

Under the use of thyroid extract the patient has, perhaps, made a slight gain, although the appearance of the throat is about what it was two years ago.

Inasmuch as the mucous oedema was principally located about the fauces and in a mechanical way gave rise to most of the patient's symptoms, I have thought the case worthy of being reported, and have called it myxœdema of the throat.

## Therapeutical Notes.

**Ichthylol in Affections of the Eyes.**—Germani (*Gazzetta degli ospedali*, June 20, 1896; *British Medical Journal*, August 22, 1896) finds that lanolin mixed with from ten to fifteen per cent. of its weight of ichthylol is very efficacious in ciliary blepharitis, curing it when the ordinary yellow ointment has failed. Collyria containing from one to three per cent. of ichthylol are very useful in phlyctenular conjunctivitis and in simple catarrhal ophthalmia. Ichthylol is well borne, soon eases the pain, and hastens the cure.

**Cerium Oxalate in the Crises of Tabes Dorsalis.**—According to the *Lancet* for August 22d, Professor Bechterew has employed cerium oxalate in the gastric crises of tabes dorsalis, and with decided success. The number of seizures of vomiting was greatly reduced, the act of vomiting became easier, and at the same time pain, thirst, and nausea were diminished to a great extent. The mental conditions also were improved, restlessness subsided, and sleep returned. Urination is said to have been somewhat hindered, but not to the extent of requiring the use of a catheter. The most important improvement, however, was that food could be retained owing to the reduced number of paroxysms of vomiting.

**The Thyroid Treatment.**—Dr. Van de Vorst, says the *Journal des praticiens* for August 29th, reports cases of cirrhosis of the liver (*Bull. de la Soc. méd. d'Anvers*, June, 1896) in which this treatment led to a considerable amelioration. It is to be regretted, says the writer, that the form of cirrhosis which was treated is not indicated and that it is impossible to know in what the amelioration consisted, for in one case there had been ascites and it would be well to know if it had disappeared. On the other hand, in interstitial nephritis the results obtained by Dr. Van de Vorst were disastrous. In certain medullary affections there had also been an aggravation of the symptoms. In a case of psoriasis, however, the thyroid treatment had given entire success.

**The Treatment of Diabetes.**—At a recent meeting of the Congrès de Nancy, a report of which appears in the *Indépendance médicale* for September 2d, M. Mossé stated that he had employed two different methods of treatment, according to the excess or the deficiency of nutrition. In one patient antipyrine diminished the quantity of sugar, of uric acid, and of urea; but this decrease was transitory. Brewer's yeast and the fresh pancreas, in daily doses of four hundred and fifty grains, gave no results. The difficulty, according to M. Mossé, was in the diet, and he thought that the action of the medicament should be carefully watched.

**Iodide of Potassium causing Numbness of the Skin.**—The catarrhal and cutaneous disturbances, says a writer in the September number of the *Glasgow Medical Journal*, which sometimes follow the administration of potassium iodide are comparatively familiar experiences. Mr. Jonathan Hutchinson, according to the *Archives of Surgery* for July, has frequently noted, as another effect of the remedy, a sense of numbness. He states his conviction that the iodide often produces symptoms which simulate sensory paralysis and cause much anxiety to the patient. The numbness disappears when the use of the iodide is discontinued.

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THE SERUM TREATMENT OF SYPHILIS.

In the *Fortschritte der Medicin* for September 1st there is an abstract, by Dr. Dreyse, of Leipsic, of an article of Tommasoli's, chiefly polemical, published in the *Giornale italiano delle malattie veneree e della pelle*, called forth by the recent publications of Maragliano, Neumann, Mauriac, and Pellizzari on the subject of the serum treatment of syphilis. After stating that the treatment has accomplished less in syphilis than in other diseases, he accounts for this state of things by the facts that we know so little about the syphilitic virus and that all the lower animals are proof against the disease. He then enters into a controversy with Pellizzari as to the nature of the immunity of animals to syphilis. He believes it is due to materials that circulate in the blood and is therefore hæmatogenous, while Pellizzari is of the opinion that the cause is closely connected with the tissues, since any congenital immunity must be of that sort, whereas acquired immunity must be set down as hæmatogenous. Tommasoli contends that, in the case of man at least, immunity, although acquired, may owe its cause to the tissues.

According to Pellizzari, the *conditio sine qua non* of immunizing experiments is that some material should be inoculated which, although but slightly virulent, is capable of exciting the production of immunizing substances in the tissues. Is, then, he asks, this condition fulfilled in Pellizzari's experiments, since he uses blood from human subjects whose syphilis is of eight, eleven, and thirteen years' duration? A further objection made by Tommasoli against Pellizzari's experiments is that the most various kinds of serum were used on the same patients. He concedes, however, that possibly an amelioration of the course of the disease was the result.

Tommasoli next takes Mauriac to task for inaccuracies in his historical account of the serum treatment of syphilis, and claims priority for himself; if he was not the first to give serum injections in syphilis, he says, he was certainly the first to reduce the treatment to a practicable method. He then combats Maragliano's contention that the immunizing agent in the lower animals is some substance peculiar to themselves, one of which little can be expected when it is transferred to man; also Pellizzari's doctrine that there is no hope of

finding specific antitoxines in the blood of persons affected with tertiary syphilis. It may be, he says, that what we now call syphilis is really twofold—that we must distinguish between the contagious disease and the non-contagious diathesis, between syphilis and “syphilism” [*sifilismo*].

His most recent experiments are divided into three series. In the first method, which he calls *hydropotherapy*, he used the ascitic fluid of a person affected with syphilitic disease of the liver. This he employed upon seven patients in the secondary stage, most of whom had had no previous specific treatment. The smallest number of injections given in any one case was eight, and the largest thirty-seven, in periods ranging from ten to fifty-seven days, and the total amount injected varied from sixty-eight to three hundred and fifty cubic centimetres. The largest single dose was eighteen cubic centimetres. The fluid was obtained with all antiseptic precautions, and used either fresh or after being kept in sterilized vessels with the addition of a few drops of chloroform. The fluid was injected into the buttocks, and no serious mishap occurred in any case. In most of the patients, soon after the injection there followed indisposition, headache, giddiness, etc., but they always subsided speedily; in some there was a slight elevation of temperature; in several the temperature rose and the weight increased during the treatment. No albumin was ever found in the urine. As to the effect on the disease, all that can be said with certainty is that no new symptoms made their appearance during the course of injections.

In the second method, or *galactotherapy*, he used the milk of two women who had secondary syphilis, latent in one of them. After proper cleansing of the nipples, the milk was pressed out and injected immediately into the muscles of the buttock. Out of seven patients treated by this method, one had gummatous syphilis, but all the others were in the secondary stage. The number of injections varied from three to thirteen, and the total amount injected into any one patient ranged from thirty to a hundred cubic centimetres. Two of the patients in the secondary stage were decidedly improved; the others showed no change. This method was based on the observation that in other infectious diseases, such as tetanus and diphtheria, the antitoxines pass into the milk.

In the third method, termed *myelotherapy*, he employed large quantities of the spinal cord of the ox. He had previously seen syphilitics relieved of malaise and osteocopic pains by eating freely of ox marrow without specific treatment. In all, nine patients were treated in this way. Six of them had severe headache and pains

in the bones and joints; two of the six had before been treated with the ascitic fluid; the four others had had no treatment. The three remaining patients showed fresh lesions of the skin and mucous membranes. The fresh spinal cord of the ox was given either in the form of balls having powdered licorice incorporated in them or in that of an emulsion with milk. The smallest amount given in twenty-four hours was three hundred grains; the largest was fifteen hundred grains. Of the three patients with fresh cutaneous manifestations, none showed any improvement, although the treatment was continued for fifteen, twenty-seven, and thirty days respectively. Of the six others, only three were kept under observation for any considerable length of time; at the end of ten days they were all relieved of severe sufferings and felt perfectly well. The third method, then, so far as these observations go, seems the most promising, but the propriety of classing it as a form of serum treatment may be questioned.

### MINOR PARAGRAPHS.

#### THE EFFECT OF OOPHORECTOMY UPON THE VOICE.

DR. TEICHMANN, of Berlin, has furnished to the *Centralblatt für Gynäkologie* for September 5th an abstract of an article by Dr. Castex, which appeared in the *Revue de laryngologie*, on the influence of removal of the ovaries on the voice, a subject on which Moure had written some time before. Castex reports upon six women, under thirty-five years old, who had been subjected to oophorectomy. In one instance the effect of the operation seemed to be damaging; the voice became harsh, especially in the high notes, and unfitted for singing. In another case, that of a mezzosoprano, four low tones were added to the compass of the voice without any change of its strength or timbre. In the remaining cases either there was no change in the voice or whatever alteration there was could not with certainty be attributed to the operation. The author believes that the chance of damage to the voice from oophorectomy is too small to count as a contraindication to the operation.

#### DR. LYDSTON'S OVER THE HOOKAH.

A BOOK of humorous and sentimental sketches entitled *Over the Hookah*, by Dr. G. Frank Lydston, of Chicago, is about ready for publication. We have been favored with advance sheets of nearly the whole of it, all that has thus far been printed, and we have been charmed with the author's way of saying things and with the substance of what he has to say—most of all, however, with the illustrations, which are from his own designs. Much of the matter has more or less to do with medicine, and every doctor ought to read the book. We predict that Dr. Lydston will be called upon for more light writing.

### ITEMS.

**Bellevue Hospital.**—On Monday, October 5, 1896, the New York city civil service boards will hold a competitive

examination at their office (new Criminal Court Building) for the position of house physician at Bellevue Hospital. This position requires a knowledge of the treatment of the insane and pays a salary of \$1,200 per annum. Citizens of the United States, residents of New York State, may procure applications from S. William Briscoe, secretary.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 22, 1896:

DISEASES.	Week ending Sept. 15		Week ending Sept. 22	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	44	14	49	6
Scarlet fever.....	27	2	26	3
Cerebro-spinal meningitis....	3	4	3	2
Measles.....	42	5	32	0
Diphtheria.....	121	33	135	11
Tuberculosis.....	185	111	184	116
Leprosy.....	0	0	1	0

**The Medical Society of the State of New York.**—The business committee, consisting of the following members, has been appointed: Dr. Seneca D. Powell, No. 12 West Fortieth Street, New York (chairman); Dr. Willis G. MacDonald, No. 27 Eagle Street, Albany; Dr. Ernest Wende, No. 271 Delaware Avenue, Buffalo. Communications regarding papers to be presented at the next annual meeting of the society, to be held in Albany, on January 26, 27, and 28, 1897, may be addressed to either of them or to the president, Dr. James D. Spencer, of Watertown.

**The Albany Medical College.**—The Bender Hygienic Laboratory, in connection with the college, on Lake Avenue, adjoining the Dudley Observatory, is completed and will be ready for use by the classes in histology, pathological anatomy, and bacteriology during the ensuing session. Dr. George Blumer, late of the Johns Hopkins University, has been appointed director of the laboratory. Dedictory exercises will be held at the laboratory in October and will be announced.

**The Death of Professor John Eric Erichsen,** the well-known London surgeon, is announced as having taken place on Wednesday, the 23d inst. He was seventy-eight years old.

**Changes of Address.**—Dr. W. H. Bates, to No. 50 East Sixty-fourth Street, New York; Dr. Henry J. Garrigues, to No. 716 Lexington Avenue, New York; Dr. Grace Peckham Murray, to No. 48 West Fifty-second Street, New York.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 13 to September 19, 1896:*

KIMBALL, JAMES P., Major and Surgeon, is relieved from duty at Fort Wingate, New Mexico, and ordered to Fort Columbus, New York, for duty, relieving HOFF, JOHN VAN R., Major and Surgeon. Major Hoff, on being thus relieved, is ordered to Vancouver Barracks, Washington, for duty, relieving EBERT, RUDOLPH G., Captain and Assistant Surgeon. Captain Ebert, on being thus relieved, is ordered to Philadelphia, Pa., for duty as Attending Surgeon and Examiner of Recruits, relieving GRAY, WILLIAM G., Captain and Assistant Surgeon. Captain Gray, on being thus relieved, is ordered to Fort Apache, Arizona, for duty, relieving RAND, IRVING W., First Lieutenant and Assistant Surgeon. Lieutenant Rand, on being thus relieved, is ordered to Fort Clark, Texas, for duty.

DAVIS, WILLIAM B., Captain and Assistant Surgeon, is relieved from duty as Attending Surgeon and Examiner of Recruits in New York city, to take effect upon the completion of his examination for promotion, and ordered to Fort Brady, Michigan, for duty, relieving RICHARD, CHARLES, Captain and Assistant Surgeon. Captain Richard, upon being thus relieved, is ordered



to New York city as Attending Surgeon and Examiner of Recruits.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon, is relieved from duty as Attending Surgeon and Examiner of Recruits, Baltimore, Md., to take effect on completion of his examination for promotion, and ordered to Fort Sherman, Idaho, for duty.

CARTER, W. FITZHUGH, Captain and Assistant Surgeon, will be relieved from duty at Fort Sill, Oklahoma Territory, October 1, 1896, and ordered to Baltimore, Md., as Attending Surgeon and Examiner of Recruits.

PURVIANCE, WILLIAM E., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Sherman, Idaho, and ordered to Fort Columbus, N. Y., for duty, relieving KIRKPATRICK, THOMAS J., JR., First Lieutenant and Assistant Surgeon. Lieutenant Kirkpatrick, on being thus relieved, is ordered to Fort Douglas, Utah, for duty, relieving DE SHON, GEORGE D., First Lieutenant and Assistant Surgeon. Lieutenant De Shon, on being thus relieved, is ordered to Washington Barracks, D. C., for duty.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 19, 1896:*

McMURTRIE, DANIEL, Medical Inspector. Promoted to Medical Director from September 3d.

HENEBERGER, L. G., Surgeon. Detached from Naval Hospital, Widow's Island, Maine, ordered home, and then to await orders.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Fifteen Days ending September 15, 1896:*

CARTER, H. R., Surgeon. Granted leave of absence for twenty-four days from September 15, 1896. September 14, 1896.

STONER, J. B., Passed Assistant Surgeon. Granted leave of absence for thirty days from September 24, 1896.

STIMPSON, W. G., Passed Assistant Surgeon. Granted leave of absence for thirty days from date of being relieved by Passed Assistant Surgeon S. D. BROOKS. September 14, 1896.

EAGER, J. M., Passed Assistant Surgeon. Granted leave of absence for sixty days from December 1, 1896. September 2, 1896.

PROCHAZKA, EMIL, Assistant Surgeon. To proceed from Detroit, Michigan, to Cairo, Illinois, for temporary duty for thirty days from October 1, 1896. September 12, 1896.

CUMMING, H. S., Assistant Surgeon. Granted leave of absence for twenty-six days from October 25, 1896. September 15, 1896.

## Births, Marriages, and Deaths.

### Married.

PAINE—PADDOCK.—In Providence, Rhode Island, on Tuesday, September 15th, Mr. George Law Paine and Miss Elizabeth Mary Butler, daughter of the late Dr. Arthur McLellan Paddock, of St. John, New Brunswick.

THORNE—WHITTAKER.—In Dayton, Ohio, on Thursday, September 17th, Dr. Harry Thorne and Miss Hester Anna Whittaker.

### Died.

BELLAMY.—In Wilmington, North Carolina, on Sunday, August 30th, Dr. John Dillard Bellamy, in the seventy-ninth year of his age.

BENSON.—In Noblesville, Indiana, on Tuesday, September 8th, Dr. J. L. Benson, aged seventy-nine years.

BERNACKI.—In Schandau, Saxony, on Thursday, September 17th, Dr. Charles Bernacki, of New York, aged eighty-four years.

DAWSON.—In Charleston, South Carolina, on Thursday, September 17th, Dr. John L. Dawson.

DAY.—In Farmington, Delaware, on Friday, September 4th, Dr. Asbury M. Day, aged sixty years.

FERRY.—In East Boston, Massachusetts, on Wednesday, September 16th, Alice, daughter of Dr. James F. Ferry.

HILDRETH.—In Southampton, N. Y., on Wednesday, August 12th, Dr. Charles Lotin Hildreth, aged forty years.

LIVEZEY.—In Yardley, Pennsylvania, on Monday, August 31st, Dr. Abraham Livezey, in the seventy-third year of his age.

LOCKWOOD.—In Crystal Springs, Mississippi, on Sunday, September 20th, Dr. B. M. Lockwood, aged twenty-six years.

MATHESON.—In Brooklyn, on Saturday, September 19th, J. Anna, wife of Dr. A. Ross Matheson.

RANDALL.—In Brighton, Massachusetts, on Saturday, September 19th, Dr. Charles L. Randall, aged fifty-five years.

SZABARY.—In New Orleans, on Friday, September 18th, Elizabeth Hart, wife of Dr. Latzi Szabary, aged thirty-eight years.

## Letters to the Editor.

### ALBUMIN TESTING.

BROOKLYN, September 9, 1896.

To the Editor of the New York Medical Journal:

SIR: In an article on Albumin Testing in the last issue of the *Journal*, page 326, by A. R. Elliott, M. D., there appears an error which seems to have been an oversight. On page 327, second column, the statement is made that albumin is the only proteid affected by the potassium-ferrocyanide test. In fact, albumin, globulin, albuminates, and some of the proteoses are precipitated by it. On page 328 the same error also occurs. On this same page it is stated that peptone gives a positive reaction, i. e., is precipitated by ammonium sulphate, while proteose is not. As the reverse of this statement is true, it is to be presumed that this error was accidental.

The separation of the proteids by the method given does not distinguish between albumin, globulin, and the albuminates. They are all classed as serum albumin, although it must be admitted that, for clinical purposes, the distinction is not very important.

A better method for the detection of the proteids to be found in the urine is the following:

1. Test a portion of the urine with Tanret's test. If a positive reaction is obtained, heat the solution to boiling. Albumoses, peptone, and alkaloids dissolve, while serum albumin, egg albumin, serum globulin, mucin, nucleo-albumin, albuminates, and resins remain.

2. Treat the undissolved coagulum with alcohol, when the resin, if present, dissolves.

3. Dilute a portion of the urine with an equal volume of water, and add an excess of acetic acid to precipitate the mucin and nucleo-albumin. Filter off the precipitate, wash with water containing a few drops of acetic acid, perforate the paper, and wash the precipitate into a test tube with a fine jet of water from a wash bottle or pipette. Boil the liquid containing the precipitate with twenty-five per cent. of HCl or H<sub>2</sub>SO<sub>4</sub>, neutralize with liquor potasse or liquor sodæ, and test with Fehling's solution. If mucin is present, the copper is reduced. The separation of mucin and nucleo-albumin is tedious, and, owing to the small quantity of the latter usually present, is unsatisfactory.

4. Boil ten cubic centimetres of filtrate from three,

or the original urine with three or four drops of acetic acid:

(a) Precipitate, *albumin* or *globulin*.

(b) No precipitate, *albuminates*, *albumoses*, or *peptones* may be present.

5. If *albumin* or *globulin* is present, saturate a portion of the urine with  $MgSO_4$ , or add an equal volume of saturated solution of ammonium sulphate. A precipitate, *globulin*, *proteo-* and *hetero-albumoses*. The last two dissolve on heating the solution. If *albumin* or *globulin* is absent (b), neutralize the urine with a dilute alkali, if the urine is acid, or with a dilute acid if it is alkaline, when a precipitate will show *acid-albumin* in the first case, or *alkali-albumin* in the second.

6. If neutralization produces no precipitate, *albumoses* or *peptone* may be present. Try the biuret test with Fehling's solution. Rose-red color, *albumoses* or *peptone*.

7. If *albuminates* are absent, saturate a portion of the filtrate after removing the *albumin* and *globulin*, as under 4, with crystals of ammonium sulphate. A precipitate, *albumose*.

8. To the filtrate from 6 add Tanret's solution. A precipitate, *peptone*. Confirm with Fehling's solution. (See under 6.)

E. H. BARTLEY, M. D.

#### ERRORS IN MEDICAL LITERATURE.

BROCKTON, MASS., September 14, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In the last issue of your *Journal*, I note in Mr. W. J. Robinson's letter a misquotation. He says that Professor Morrow recommends in his *System* the tincture of chloride of zinc, etc. Being a possessor of that *System*, and wishing to correct such a misstatement, I took down volume i and examined the reference—volume i, page 1013—and I find that Professor Morrow recommends the tincture of chloride of iron. He says: "I am accustomed to order the bromide, fifteen grains, in combination with tincture of chloride of iron, fifteen drops, after each meal, with a double dose at bedtime."

I think it due this carefully written set of books that, so long as such an error does not exist, the statement that it does should be corrected.

C. BURTON CONNER, M. D.

[In the first issue of the *System* tincture of chloride of zinc was named, by mistake; but as soon as the error was discovered iron was substituted. Both our correspondents are therefore right, so far as the quotation goes.]

#### PROFESSOR KLEBS'S ANTIPHTHISIN.

ASHEVILLE, NORTH CAROLINA, September 8, 1896.

To the Editor of the *New York Medical Journal*:

SIR: I notice your recent comments upon the position of Professor Klebs as to American patents, in reference to the code of the American Medical Association, which would imply that it was I who kept Professor Klebs in ignorance of the provisions of the code, and that therefore any possible violation on the part of Professor Klebs is in fact chargeable to me.

Permit me to correct this impression by stating that Professor Klebs applied for a patent in the United States for the process of manufacturing antiphthisin in 1893, therefore a year before I ever met him or entered into any relations with him.

When Professor Klebs contracted with the Winyah

Hotel and Sanitarium Company, he represented that he had an American patent on antiphthisin which was ready to be issued to him, and which he expected to find on his return to Germany. He assigned this patent to the Winyah Hotel and Sanitarium Company in order to justify them in carrying out the contract under which Professor Klebs was to be paid a salary for a period of ten years, and which further implied the equipment and maintenance of a laboratory for that period.

Prior to the signing of this contract I explained very fully to Professor Klebs the position of the American Medical Association toward patents, and it was therefore agreed between Professor Klebs and myself that, in order to give no offense, the patent should be owned by the company, and should never be claimed. In other words the company would hold it only in its relations to Professor Klebs.

After Professor Klebs made this contract and agreement, the patent was found to have been rejected by the commissioner of patents, and therefore a trade-mark on the name was secured by the Winyah Hotel and Sanitarium Co., which, however, has never been claimed, and has been held by this company only to protect it in its relations with Professor Klebs.

The relations between Professor Klebs and the Winyah Hotel and Sanitarium Co. were terminated by Professor Klebs's refusal to report in writing the pathological conditions of animals experimented upon with antiphthisin and other remedies *without first knowing* which of such animals were control animals, which were treated with antiphthisin, and which with other remedies. These experiments were requested and directed to be made by me, in order to remove all personal bias, and to show conclusively the true value of the animal experiment, and the demand seemed justified by the paper of Dr. Trudeau and Dr. Baldwin in the *Medical Record* of December 21, 1895, and by the reply of Professor Klebs to the same in the same journal of January 18, 1896, in which he himself stated that the results obtained in such an experiment depended upon the *good will of the experimenter*. It occurred to me that the good will of the experimenter might drift into wrong directions in either case, and I deemed it perfectly proper that Professor Klebs should report upon the results obtained without the previous knowledge that the animal had been treated with his or any other remedy or at all.

Incidental to the question of the chemical status of antiphthisin, Dr. Trudeau and Dr. Baldwin had arrived at certain conclusions, which were contradicted by Professor Klebs in his reply, and he was further directed to substantiate his position by demonstrating the errors of Dr. Trudeau and Dr. Baldwin, which vitally affected his claims published in his book (*Tuberculosis*, Leopold Voss, Leipzig, 1893) as well as his claims of his discovery as set forth by him in his patent application.

This Professor Klebs also refused to do, and that, together with the animal experiments, will receive more notice and light after we have finished the investigations now in progress and nearing completion in our laboratory, which Professor Klebs declined to make.

I am perfectly willing to assume the responsibility as to any violation of the code of ethics of the American Medical Association, but I do not propose that Professor Klebs shall shield himself by pleading ignorance on a subject which was discussed time and again between us, both before and after he made his contract, the result of which was, as stated before, that both of us agreed to avoid giving offense by making no claims for



either patent or trade-mark, and none have ever been made either upon the labels or other printed matter in connection with antiphthisis.

KARL VON RUCK, M. D.

## Proceedings of Societies.

### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.*

The President, Dr. WILLIAM H. DALY, of Pittsburgh, in the Chair.

(Continued from page 363.)

**Tuberculous Infection of the Lymphoid Tissue of the Pharynx.**—Dr. JONATHAN WRIGHT read a paper on this subject. (See page 412.)

Dr. H. L. SWAIN said: I consider this one of the most valuable contributions we have had on this subject. We are all aware that the glands of the neck are frequently enlarged in cases of adenoids and of enlarged tonsils, and it is a relief to my mind to know that such swelling is probably hardly ever tuberculous. It has been demonstrated by excision of these enlarged glands in the adult that they may be tuberculous, and I have always had a suspicion that this condition was left over from the lymphadenitis of childhood. Another good point was brought out by these pictures—the bacilli wandering through the epithelium of the larynx, which is always more dense and seemingly more resisting than in the tonsils. Those who have made many sections of these latter organs must have been impressed with the condition of the epithelium in every case of enlarged tonsil, as it is perforated by many thousands of holes through which the leucocytes pass, so that it resembles a honeycomb. When we think of the possibility of infection, it is a wonder that the tonsils are not literally a hotbed of the tuberculous infection. This bears very nicely upon the point that the tonsils must have some protective action in the matter, or are very non-absorptive.

Dr. WRIGHT said: The large glands in the neck, I think, are very frequently tuberculous, and the fact that tubercle bacilli can not be found does not prove that they have not been there. It has been shown that the tonsils are very poor structures for absorption, and very little evidence of absorption through the tonsils has been obtained. Whether bacilli have passed through but have not lodged it is impossible to say, but it is a fact that they are frequently found in the lymphatic glands below. It has been said that in adults with phthisis the tuberculous infection has been a retrogressive one, from the root of the lung upward, whereas in children the evidence shows that the infection has been downward.

**The Relation of Acute Diseases of the Nose and Throat to Disorders of Digestion.**—Dr. M. R. BROWN, of Chicago, read a paper on this subject. (See page 294.)

**The Relation of Chronic Diseases of the Nose and Throat to Disorders of Digestion.**—Dr. T. R. FRENCH, of Brooklyn, read a paper on this subject. (See page 356.)

Dr. JOHN O. ROE said: There is no question but that the upper air-passages are markedly affected by dis-

turbances or diseased conditions of the stomach. This is well illustrated by the frequent occurrence of influenza or a cold in the head, after excessive eating or drinking, which very often occurs after wine dinners and the like, as a result of the gastric irritation which is reflected from the stomach to the nasal passages, through the sympathetic nerves, producing in the nasal cavity excessive turgescence of the vessels from the lack of inhibitory control. Headaches that so frequently follow the excessive indulgence of the appetite are produced in the same manner. And in the treatment of these disturbances nothing is of more assistance in quickly relieving a cold in the head or a headache arising from this cause than a brisk saline laxative, one of the most serviceable of which I have found to be liquor magnesii citratis. Affections of the stomach are also caused in many cases by disease in the upper air-passages. The principal manner in which diseases of the upper air-passages affect the stomach is by the passage of secretions from the nose and throat into the stomach, carrying with them the bacteria which produce fermentation or decomposition in the stomach, and in some cases very well marked disturbances.

Dr. WRIGHT said: I have been struck by some Italian observations in regard to the bacterial condition of the nasal mucus during acute coryzas. *Sarcinae ventriculi* were found in normal cases in moderate numbers, but in acute coryza they are much increased. In children, acute coryza frequently ends in a disturbance of the stomach. Possibly there may be some etiological connection between the two. In adults one is not so apt to find stomach disturbance, as they do not swallow their mucus as a rule. In chronic coryza and post-nasal catarrh I have never noticed any special tendency to dyspepsia. Both affections are too common in America to reason from one to the other in regard to cause and effect.

Dr. W. E. CASSELBERRY said: Dr. Turck, of Chicago, has made an effort in a scientific way to determine the dependence of stomach diseases upon nasopharyngeal affections. The instrument he has devised he calls a gyromele, with which he swabs out the stomach. He subjects the secretions thus extracted to bacteriological examination, and asserts that in several cases of pharyngeal disease with muco-purulent secretions he has discovered the same micro-organisms in the stomach that were present in the nose and nasopharynx. He asserts also that in these cases, without other treatment, the correction of the nasopharyngeal trouble by a laryngologist, to whom the cases were referred, has cured the stomach disease. I do not know how accurate this is, but it seems to be a step along the proper line. It is of more value than examinations from a clinical standpoint only, as, unsupported by experimental work, clinical observation must always leave a doubt in this matter. The next step would be for others to be able to confirm Dr. Turck's interesting experiments.

Dr. G. V. WOOLEN, of Indianapolis, in continuing the discussion of papers by Dr. Brown and Dr. French, said: Since Dr. Wright published his paper a few years ago, showing what a number of bacterial agents could be found in the nasopharyngeal mucus, I have accepted it as a fact that the gastro-intestinal trouble was due to this. The trouble in the stomach may cause or be the cause of the nasopharyngeal trouble, and investigations have proved this. I have been accustomed to say to my patients, in order to discourage the swallowing of this mucus, that I believed the nastiest part of the whole



human organism was the nasopharynx, and I believe this to be true. I must object to Dr. Wright's remark that adults do not swallow their secretions, and I think you will hear me out in this. You will oftentimes see a collection on the posterior wall of the pharynx, and before you can tell your patient to clear his throat the collection will have passed into the stomach.

Dr. ROE said: While in Atlanta, attending the meeting of the American Medical Association, last week, I had an interesting conversation on the subject with Dr. Turck, of Chicago, who has given the subject of bacteria of the stomach a very large amount of attention. He said that he found in many cases the same bacteria attached to the walls of the stomach that he found in the nasopharynx, which had originated in the nasopharynx and found their way into the stomach. Recognizing the fact that the bacteria in the stomach had originated in the pharynx, he invariably referred such cases to the laryngologist for the treatment of the nasopharynx.

The finding of the same bacteria in the stomach that are found in the nose would not be a proof that gastric disease is caused by the nasal trouble. So far as I know, nothing has been advanced to show that pyogenic bacteria, the characteristic pathogenic micro-organisms of the nose, have any irritative effect on the intact mucous membrane of the stomach. It seems probable, however, that the raw albumin of the post-nasal secretions swallowed may cause dyspepsia.

Dr. F. E. HOPKINS, of Springfield, Mass., said: There is one point to be borne in mind, and that is, that although the nasopharynx and the nasal passages may contain bacteria, we must remember that we can cut into the tissues without producing any serious results from the local irritation of the bacteria, and if they do not produce serious results in the open wound it is worthy of further thought whether much irritation would be produced upon the mucous membrane of the stomach.

Dr. BROWN said: I did not attempt to state that the relationship existing between acute inflammation of the nasopharynx and of the stomach was a matter of theory, but that clinical evidence seemed to demonstrate that there was a relation between the two. Regarding Dr. Turck's observation—i. e., that he found the same organisms in the upper air tract and in the stomach—he has reported some nine cases in which careful bacteriological examinations were made of the secretion taken from the nose and throat, and then using a gyromele in the stomach he finds the same organisms present. After restoring the mucous membrane of the nose and throat to a healthy condition the bacteria disappear from the stomach. He mentions one case in particular of an acute inflammation in which the same organisms were found in the nasopharynx and in the stomach. The condition of the stomach improved after relieving the inflammation of the upper air-passages.

Dr. FRENCH said: When Dr. Robinson, in the paper which he read before this association several years ago, expressed his belief that discharges from the nasopharynx were capable of exciting gastric catarrh, exception was taken to the statement by some of the members speaking to the paper.

I have been much gratified, therefore, in the discussion today to hear this belief endorsed. Boas, of Berlin, the specialist in gastro-intestinal disorders, is a strong believer in this theory, as is also Fischer, of New York, who devotes himself to the same specialty.

I had expected, in the discussion of the relation

of digestive disorders to acute diseases of the nose and throat, that Dr. Duncan Burkley's theory of the cause of common colds would be mentioned. He believes that colds are due to a hyperacidity of the gastric secretions, and that the administration of an alkali, preferably the bicarbonate of sodium, will often abort them if given in time, or materially improve the nasal and throat conditions if given at any time during the course of the attack. I have tried this method of treatment in many cases and with such gratifying results that I can not but believe that there is much truth in the theory. Chemical analyses, which I believe are now being made, will, no doubt, soon settle this question. If the theory is a correct one it constitutes a very strong argument in favor of the intimacy of the relationship between the diseases of the digestive and those of the upper air tracts.

**A Case of Myxedema of the Throat.**—Dr. JOHN W. FARLOW, of Boston, read a paper on this subject. (See page 421.)

**The Treatment of Diseases of the Nose and Ear with Oxygen.**—Dr. GEORGE STOKER, of London, contributed a paper on this subject. (See page 222.)

**Erysipelas of the Air-passages.**—Dr. WILLIAM PORTER, of St. Louis, read a paper on this subject. (See page 221.)

**Seropurulent Maxillary Sinusitis in Chronic Lead Poisoning.**—Dr. H. L. WAGNER, of San Francisco, read a paper with this title. (See page 222.)

(To be continued.)

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in Philadelphia, on Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896.*

The President, Dr. F. X. DERCUM, of Philadelphia, in the Chair.

(Continued from page 395.)

**Progressive Muscular Atrophy of Sudden Onset.**—Dr. THEODORE DILLER, of Pittsburgh, related the details of a case which had come under his observation three years before, and stated that the sudden onset of palsy followed by atrophy and the absence of sensory phenomena had led him to diagnose the case as one of poliomyelitis acutiorum. The beginning of the patient's trouble had been in an ophthalmoplegia. After an absence of two years the man had again come under his care, when the atrophy and loss of power in the muscles had decidedly increased. The biceps and triceps and the scapular and ulnar groups had become involved and the finer movements of the fingers had been lost, also the power of supination. At that time the patient had been unable to adjust or remove his clothing unaided. There had been a marked decrease in the response both to galvanism and faradism in the paralyzed muscles. Dr. Diller considered the case could be fairly regarded as one of progressive muscular atrophy, as the progressive feature had been for two years the most important point in the case. Ophthalmoplegia is a symptom of progressive muscular atrophy must be rare, for but scant references were made to it in literature. Strychnine had a very marked effect in staying the progress of the disease.

**Pitting about the Hair-cups, a Trophic Change in the Skin in Certain Nervous Disorders of Central Origin.**—Dr. WILLIAM BROWNING, of Brooklyn, described a presumably hitherto unrecognized alteration in the skin. From some seven or eight years' observation of such

cases he was able to give the limits of its occurrence. So far, it had been seen only in progressive muscular atrophy of spinal origin or in cases complicated with atrophy evidently likewise due to chronic precornal disease. In other troubles attended by atrophy, such as infantile palsy, neuritis, pseudo-hypertrophy, etc., it had not been found. He hoped that it might prove a useful help in diagnosis, especially between the forms due to peripheral and those due to central disease. The change consisted of an areolalike faint depression, frequently oval, in the direction of the lines in the skin, though it might be irregular or circular in form, about the exit of each hair. Usually the depression was a trifle paler than the surrounding skin, resembling, but not really being, a minute scar. It was not observed in specially hairy regions like the scalp, but only over the seat of muscular atrophy, notably on the leg and thigh, also on the upper extremities. All these patients had reached or passed middle life.

**Myelosyringosis limited to One Posterior Horn in the Cervical Region, with Arthropathy of the Shoulder and Ascending Degeneration in the Pyramidal Tracts.**—

This was the subject of a paper by the PRESIDENT and Dr. WILLIAM G. SPILLER, of Philadelphia, who stated that, three years after a strain of the back, the patient had begun to suffer from pains in the legs, a band-like pain about the lower part of the chest, weakness in the lower limbs, and a spastic gait. Complete paraplegia with contractures, more marked on the right side, wasting of the lower limbs, and paralysis of the bladder and rectum had developed later. Cutaneous sensibility had been lost in the legs and upon the trunk as high as the nipple on the right side and a little above the umbilicus on the left. The sense of temperature had been absolutely lost over the right arm, the right shoulder, and the right side of the neck, and also upon the adjacent part of the right side of the trunk above the nipple line. There had been some analgesia of the right arm. The right shoulder joint had begun to swell, and, owing to a rupture of the capsular ligament, cellulitis, with redness and local heat, had been produced, but with little or no pain. In extension, the humerus assumed the position of a subglenoid luxation. Death had been due to exhaustion.

At the autopsy the capsule of the right shoulder joint had been found to be much thickened and roughened on the inner surface. The head of the humerus had disappeared, the bone having been eroded to some little distance below the surgical neck. A cystic tumor containing a friable fatty material was found in the axilla. The surface of the glenoid cavity was much eroded, roughened, and porous, it was abnormally large, and an extensive bony deposit had taken place along its edges. The coracoid process exhibited a thick and firm accretion around its entire edge.

Sections had been made from the level of nearly every spinal root and from many spinal ganglia. By the microscopic examination degeneration of the crossed pyramidal tract had been found as high as the substantia reticularis of the second cervical segment and of the direct pyramidal tract as high as the motor decussation upon the right side and for a short distance of the crossed pyramidal tract upon the left. This was believed to have been ascending on account of the following facts: 1. The absence of any microscopical lesion above the medulla oblongata. 2. Degeneration of the crossed and direct pyramidal tracts on the same side of the cervical cord, intense in the lower cervical region near the

lesion, diminishing gradually in intensity in the cervical segments, and finally becoming very indistinct in the upper cervical region. 3. The absence of all degeneration in the anterior pyramids. 4. The long duration of a chronic process.

While certain associative fibres might be considered degenerative in these columns, the entire antero-lateral column contained such fibres, and the degeneration had notably been in the area occupied by the crossed and the direct pyramidal tract. This ascending sclerosis had probably been in greater part due to destruction of motor fibres deprived of their function. Degeneration of the direct cerebellar tracts and of the tracts of Gowers had been traced as far as the inferior peduncles of the cerebellum. Intense pachymeningitis had been noticed from the second lumbar segment to the exit of the third dorsal roots. The arthropathy of the right shoulder had not been due to any special changes in the cord or spinal ganglia. The posterior roots had not been affected where the pachymeningitis had been most intense; the anterior at one part of the dorsal cord had been degenerated. In the entire cervical region, as high as the second cervical segment, the cavity had been limited to the right posterior horn. The gliosis had extended from the extreme end of the conus terminalis to the second cervical segment. The microscopical examination had explained satisfactorily the symptoms observed in life.

Dr. HENRY S. UFSON, of Cleveland, stated that the degeneration in the lateral columns was explicable in two ways: The short fibres might have been affected successively by the lesion, or the degeneration might be in consequence of the myelosyringosis or coincident with it.

Dr. JAMES H. LLOYD, of Philadelphia, said that the foregoing remarks proved that a localizing diagnosis could be made at the present time. This was the sixth case that had been correctly diagnosed at the Blockley Hospital. He thought the diagnosis was a very easy matter.

Dr. B. SACHS, of New York, indorsed what the previous speaker had said as to the diagnosis. As to the sensory symptoms, the line must not be drawn too close. There was frequent variability in the sensory symptoms during the course of the disease.

Dr. KNAPP mentioned a case that had been under his observation, in which the diminution of tactile sensibility had been marked, although in the earlier period of the disease it had been very slight.

Dr. M. A. STARR, of New York, stated that the first case which had been correctly diagnosed in New York had been presented at his clinic. He did not think this disease was a rare one. He had seen three cases lately in which the dissociation of sensation had been well marked and accompanied by trophic symptoms. He also referred to its coincident association with acromegaly. Sometimes there was considerable difficulty in making the diagnosis. He mentioned a case in which it had been difficult to determine whether it was hysteria or myelosyringosis. There had been preservation of tactile sense and hemianæsthesia limited to pain and temperature senses.

Dr. PUTNAM referred to a patient he had observed for many years, in whom there had been constant and severe pains in the back which had led to the suspicion of a tumor. He had been operated upon and his condition improved. Dr. Putnam thought the diagnosis was extremely difficult in children.



Dr. PATRICK was pleased to hear attention called to the coexistence of pachymeningitis. He had seen a case in which both lesions had coexisted.

**Rapidly Fatal Encephalitis resembling Cerebro-spinal Meningitis.**—This was the subject of a paper by Dr. JAMES HENDRUE LLOYD and Dr. JOSEPH SAILER, of Philadelphia. The writers called attention to the fact that fulminating cases of the infectious diseases, such as small-pox, scarlatina, measles, typhoid fever, and spotted fever, occurred in which the diagnosis was exceedingly obscure and the disease was usually quickly fatal. In these cases, as a rule, the most marked symptoms were in the nervous system. There was delirium passing into coma, with depressed cardiac and respiratory centres, with high fever, and, in the cases of the exanthemata, often a purpuric or hæmorrhagic eruption not always characteristic. These cases demanded especially two things: first, the determination of the exact effects upon the nervous system, and, second, the determination of the microbe or toxic agent at work in any given case. The writers could only attempt the former study, as the paper was not intended to deal with the bacteriology of the subject.

The patient was a man, aged twenty-four years, who had been taken suddenly with a chill followed by fever and intense cephalalgia and rhachialgia. He had passed rapidly into a condition of delirium merging into coma. Third-nerve paralysis had supervened, and on the third day a copious purpuric eruption had appeared. This eruption had presented ecchymoses, and, on the hands, lesions like those of erythema nodosum. Blood and pus had been found in the urine, and vomiting of blood had occurred before death. The patient had died on the sixth day. The autopsy had revealed disseminated local lesions in the cerebrum, mid-brain, pons, and post-oblongata. There had been some migrated leucocytes in the circumvascular spaces, little involvement of the membrane, and a diffused nephritis. From extensive microscopical research, the writers were able to report a disseminated local inflammation of the cerebrum. The infection had invaded the brain by way of the connective-tissue structures, blood-vessels, etc., and the nerve tissues proper had been invaded secondarily. From a clinical standpoint the case probably came under the head of spotted fever.

Dr. OSLER said he should like to have heard more in regard to the condition of the kidneys in the case reported. The diagnosis of encephalitis could be readily made. Unless the basal meninges were involved we could not make a positive diagnosis of meningitis, as all the symptoms, such as retraction of the head and clonic contractions of the muscles, might be present in pneumonia and yet nothing was found at the autopsy.

Dr. PUTNAM agreed with the previous speaker that so-called meningeal symptoms might occur without meningitis.

**A Case of Neuropathic Dermatitis.**—Dr. L. A. DUHRING, of Philadelphia, presented this patient, who had been under his observation for six years.

**The Effects of the Fluid Extract of Anhelonium Lævini (the Mescal Button).**—This was the title of a paper by Dr. S. WIER MITCHELL, and read by Dr. WILKINSON SINKLER, of Philadelphia, in which a graphic description was given of the personal experience of Dr. Mitchell as to the exhilarating effects and the production of various visual hallucinations, etc., after the ingestion of a certain quantity of the drug.

**Uncertainties of Cerebral Localization.**—A paper with

this title was read by Dr. WHARTON SINKLER, of Philadelphia.

**Cerebral Abscess situated at the Posterior Part of the External Capsule (involving the Medullary Substance of the First Temporal Convolution; also the Posterior Part of the Lenticular Nucleus, and extending into the Subthalamic Region), with some Considerations in Regard to the Constitution of the External Bundle of Fibres in the Cerebral Peduncle.**—Dr. CHARLES K. MILLS and Dr. WILLIAM G. SPILLER, of Philadelphia, presented the following case: The patient had never had ear-ache, but had suffered during the summer of 1895 from severe headache. On December 20, 1895, he had become unconscious and had had three general convulsions which resembled those of epilepsy. It had been noticed that he was partially paralyzed on the right side and that he could not talk properly. His condition later had improved very much. On January 29, 1896, he had had another attack of partial unconsciousness without convulsions, but with aphasia and decided paralysis. On his admission to the hospital he had been in a condition of stupor; he had not spoken when addressed, and had had almost total right-sided paralysis, incontinence of urine and feces, and entire loss of pain and touch sense over the paralyzed side. It had been found that he had right homonymous hemianopsia, and double papillitis, most marked in the left eye. Death had occurred on February 26, 1896. There had been no evidence at any time of middle-ear disease.

At the autopsy an abscess had been found in the left hemisphere, just above the level of the callosum. Both tympanic membranes had been normal. Microscopical examination of the pus from the cerebral abscess had revealed only the ordinary *Staphylococcus pyogenes aureus*.

The occurrence of epileptoid convulsions at the time of the first attack of unconsciousness, which had probably been due to irritation of the motor fibres within the internal capsule, was worthy of note as an instance of the difficulty in diagnosing cortical lesions. It was not known in what portion of the body these convulsions began. The diagnosis had been made of some morbid process located at the posterior part of the internal capsule, involving the optic radiations and causing pressure.

The abscess had occupied the posterior part of the external capsule and a portion of the lenticular nucleus, and had extended downward into the subthalamic region, but to all appearances it had not cut the fibres of the optic radiations or those of the internal capsule. The loss of function in these tracts had probably been due to pressure. The white matter of the first temporal gyrus had been almost entirely destroyed, and fibres from the upper anterior part of the second temporal had also been cut. As the cavity had been very near the periphery of the first temporal convolution, it would not have been difficult for the surgeon to empty it. Hearing had probably not been seriously affected, although word deafness had appeared to be present. In view of the frequency of cerebral abscess after suppurative processes in the lungs, it might be added that merely spots of catarrhal pneumonia had been found in both lungs at the autopsy. No degeneration had been noticed anywhere in the motor tract. At all parts a good half-inch of sound tissue had existed at the posterior part of the internal capsule in the area corresponding to the optic radiations and Trunk's tract. It had been maintained by Déjerine that fibres arose in the temporal lobe (especially in the second and third convolutions), passed inward below the



putamen, joined the posterior part of the internal capsule in the subthalamic region, and then formed approximately the external fifth of the cerebral peduncle. No fibres from the occipital lobe were found in this lateral bundle of the crus. Déjerine had found this tract of Türk degenerated in six cases of lesions involving the middle and inferior parts of the temporal lobe.

In this case the fibres from the first temporal gyrus had been almost entirely destroyed, as well as those from the upper anterior part of the second temporal convolution, and, as no degeneration had been found within the lateral bundle of the peduncle by Marchi's method, sixty-eight days after the first attack and twenty-eight days after the second, certainly a period sufficiently long for this method, the authors considered that the case demonstrated the fact that no fibres from the first temporal and the upper anterior part of the second temporal gyrus, including a portion of the upper middle of this gyrus, entered Türk's fasciculus. This of course did not render impossible or improbable the origin of such fibres in the lower anterior and in the whole of the posterior part of the second temporal and in the whole of the third temporal gyrus. The fibres which entered the first temporal gyrus were probably connected with the sense of hearing and, being sensory, probably did not degenerate downward, which accounted for the absence of secondary degeneration in the peduncle.

**The Surgical Treatment of Focal Epilepsy; a Critical Analysis of the Result in Nineteen Cases.**—Dr. B. SACHS and Dr. A. G. GERSTER, of New York, stated that for the last six years they had attempted to study in a thoroughly unbiased fashion the results of the various surgical procedures for the cure or relief of partial epilepsies. They had included not only cases due to traumatic injury, but those associated with infantile cerebral palsies or some other acute cerebral condition. Their list of cases did not, however, include those in which the epilepsy was due to tumor. Before detailing their own cases the authors laid special stress upon the unsatisfactory results to be gained by a mere statistical inquiry of the cases reported in literature. The majority of these were reported either too early, or, if reported, they were not properly analyzed. It was their opinion that the results after operative procedures for the cure of epilepsy should not be considered unless at least a period of a year had elapsed since the time of the operation. But they also stated that it was not well to exclude all cases in which the attacks returned soon after the operation, for, in some of these, decided improvement set in later on. A number of authors had condemned every surgical procedure, without in the least attempting to account for the failure to cure or to improve the patient. Thus the mere fact of an addiction to alcohol was of itself sufficient to explain the failure to cure epilepsy by operative procedure. The epilepsy which was developed after a traumatic injury or in association with infantile cerebral palsies was evidently due to secondary degeneration of the association fibres in the hemispheres, and this degeneration originated from the focus of diseased tissue and was generally developed in the course of a year or two. In this same period of time the epilepsy often appeared after the initial injury. Horsley's proposition to excise the diseased tissue and thus prevent the epilepsy was considered to be based upon sound physiological principles, but in practice the results had not been so satisfactory as had been expected, and the authors attributed this

chiefly to the fact that after epilepsy had lasted for a number of years, and after secondary degeneration had been fully established, the excision of the original focus of disease could not be expected to do good. It was important therefore, if possible, to prevent the formation of secondary degeneration in the hemispheres by excision of the diseased tissues, or to prevent epilepsy by early surgical procedures in the case of depression of the skull and other cranial injuries. These nineteen cases had been minutely tabulated with reference to the origin of the trouble and the interval elapsing between the traumatic injury or beginning of the epilepsy, and the operation. The analysis showed that three patients had been positively cured, two greatly improved, and three somewhat improved, while in eleven cases there had been absolutely no improvement. A study of all the cases showed that in those in which there had been improvement the operation had been done within a period of two years after the traumatic injury or the beginning of the disease. The same was true of those cases in which great improvement occurred but not recovery, the failure to cure in these cases having been ascribed to other causes, such as alcoholism or want of proper care after operation. The authors' views and experiences were summed up in the following conclusions:

1. That surgical interference was advisable in those cases of partial epilepsy in which not more than one or at the utmost two years had elapsed since the traumatic injury or beginning of the disease which had given rise to the convulsive seizures.
2. In case of depression or other injury of the skull, surgical interference was warranted even though a number of years had elapsed. But the prospect of recovery was brighter the shorter the period of time since the injury.
3. Simple trephining might prove sufficient for a number of cases, and particularly in those cases in which there had been an injury to the skull or in which a cystic condition was the main cause of the epilepsy.
4. Excision of cortical tissue was advisable if epilepsy had lasted but a short time and if the symptoms pointed to a strictly circumscribed focus of disease.
5. Since such cortical lesions were often of a microscopic character, excision should be practised even if the tissue appeared to be perfectly normal at the time of operation, but the greatest care should be exercised in order to make sure that the proper area was removed.
6. Surgical interference for the cure of epilepsy associated with infantile cerebral palsies might be attempted, particularly if too long an interval had not elapsed since the beginning of the palsy.
7. In cases of epilepsy of long standing, in which there was in all probability a widespread degeneration of the associated fibres, every surgical procedure was absolutely useless.

**A Contribution to the Pathology of Epilepsy and a Resume of the Utility of Operation in Epilepsy.**—Dr. JOSEPH COLLINS and Dr. A. WIENER, of New York, reported two cases in which a portion of the cortex had been excised. The first case was that of a young man, twenty years of age, with the usual symptoms of focal epilepsy, who had had but three attacks. The cortical area for the right hand had been cut out. Microscopical examination of the tissue had shown chronic meningo-encephalitis, obliterative changes in the blood-vessels, changes in the ganglion cells of a degenerative character, and the formation of neuroglia tissue in the softened area. The patient had been operated upon a year before and had since been free from epileptic attacks.

The second case was that of a married woman, thirty years of age, who for six years had had epilepsy of a focal character at first, which later had become general. A similar operation had been performed, and the cortex had shown unmistakable pathological changes.

Dr. W. W. KEENE, of Philadelphia, and Dr. E. M. THOMAS, of Baltimore, reported a case in which a large tumor had been removed from the brain, with wide opening of the lateral ventricle. The patient, a young man of nineteen years, had an excellent family and personal history, and no history of accidents. In December, 1895, he had had an attack of intense headache and vomiting, but without optic neuritis. The latter symptom had followed in the middle of January, with, later on, blindness in the right eye, slight vision remaining in the left; there had been slight protrusion of the left eyeball; the pupils had been equal and normal; the sense of smell, of hearing, and of taste had been unaffected. Paresis of the lower right face had existed; sensation and the muscles of mastication had been unaffected; there had been no muscular weakness in either the arms or the legs, but there had been a good deal of muscular restlessness of the right hand, which had persisted even during sleep. The reflexes had been present; the mental condition had been poor; the patient had been dull and apathetic, and sometimes slightly wandering. After the early headache and vomiting had appeared, these symptoms had not been a marked feature. There had been slight aphasia. Dr. Osler and Dr. Starr had seen the patient with Dr. Thomas, and the conclusion had been reached that there was a tumor in the left frontal lobe, most probably at the base of the second frontal convolution, and probably subcortical. On May 10th, Dr. Keene had operated. The tumor had presented through a rupture of the cortex at the base of the second frontal convolution, as had been diagnosed. The tumor had been easily scooped out by the fingers. The lateral ventricle had then been seen to be wide open. After the operation there had been no increase of the paralysis. In two weeks the patient had entirely recovered. The tumor had been 7.5 centimetres long, 5.5 centimetres broad, and four centimetres deep, and weighed two ounces and a half. It was a hard non-infiltrating sarcoma.

Dr. A. G. GERSTER, of New York, confined his remarks principally to craniotomy in reference to cases of epilepsy. He spoke of the dangers in the use of the trephine and chisel, and recommended the bone-flap operation, as introduced by Krause, which was performed with the aid of the chisel and rongeur. He considered all these methods unsatisfactory and too slow. Incidentally, he exhibited Krause's electrical saw.

The greatest danger in cranial operations, he thought, was due to hemorrhage on account of the prolonged duration of the operation. Therefore any apparatus was desirable that would enable the surgeon to work with rapidity and safety. He presented an American apparatus based on the principles of the dental drill, and said he had used the instrument with satisfaction in four cases.

Dr. M. A. STARR had seen twenty-four patients operated upon, but none had been cured. He had never recommended and would not recommend an operation in idiopathic epilepsy. He had always had the advantage of a skillful operator. These operations should only be done by surgeons who had special experience in this line of surgery, and not by the general surgeon. The excision of cysts was very unsatisfactory, as death

on the table had often followed. He had seen patients operated on very early in infantile epilepsy which had been due to meningeal hemorrhage, without favorable result. When brain tissue, either scar tissue or normal tissue, had been excised, the attacks had also recurred. In eleven cases of brain abscess in which an operation had been done, three patients had recovered. All these cases had been seen at the various hospitals, and they had usually been subsequent to ear disease. Dr. Starr could not agree with Macewen in his view as to the simplicity of diagnosis of cerebral abscess. He thought the days of trephining were over. The last operation that he had witnessed had been done in fourteen minutes and a half with chisels and gouges.

Dr. W. W. KEENE spoke at length on the report of the case presented conjointly by himself and Dr. Thomas, and said that he considered the prognosis favorable. The removal of large tumors seemed to be less dangerous to life than the removal of small ones, as in the search for the latter we were likely to damage the brain extensively. It was only within the last ten years that cranial surgery had really begun. His experience had been moderately large. He agreed with Dr. Starr, as he himself had not seen a single case of epilepsy in which an operation had resulted in a cure. He should be unwilling to accept even two years, but thought three years preferable as the limit for the disappearance of attacks after operation. He had, however, seen considerable amelioration, and therefore thought it worth while to operate in certain cases. He would not operate in cases of general idiopathic epilepsy. The sooner the operation was done after the injury or the beginning of epilepsy the more favorable the prognosis. After epilepsy had existed for five or six years, he would hesitate in operating. He concluded that it would take twenty years of experience in cerebral surgery before this matter could be satisfactorily settled.

Dr. J. H. LLOYD presented a patient with right hemiplegia and contracture, unilateral sweating and flushing of the face, and dilatation of the pupil. The latter symptoms, he said, were due to an irritative lesion of the thalamus.

(To be concluded.)

## Book Notices.

*Burdett's Hospitals and Charities, 1896*; being the Year-book of Philanthropy. Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year, etc. By HENRY C. BURDETT, Author of *Hospitals and Asylums of the World*, etc. London: The Scientific Press (Limited). [Price, five shillings.]

We have heretofore described the features of this annual and have spoken in admiration of its many desirable qualities. The volume for the present year maintains the high standard set by its predecessors and is as remarkable and as valuable as they. The field of statistical information contained within this work is enormous, and when one considers the editorial consideration of timely topics which occupies several of the opening chapters it is apparent that the book well deserves its



subtitle of the *Yearbook of Philanthropy*. The physician must certainly derive much valuable information from this work, and to all who are philanthropically inclined the work must be educational in no ordinary sense.

#### BOOKS, ETC., RECEIVED.

**Practical Diagnosis. The Use of Symptoms in the Diagnosis of Disease.** By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in Jefferson Medical College of Philadelphia, etc. Illustrated with One Hundred and Ninety-one Engravings and Thirteen Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. viii-17 to 573. [Price, \$4.75.]

**A Manual of Materia Medica and Pharmacology.** Comprising all Organic and Inorganic Drugs which are and have been Official in the United States Pharmacopœia, together with Important Allied Species and Useful Synthetics. Especially Designed for Students of Pharmacy and Medicine, as well as for Druggists, Pharmacists, and Physicians. By David M. R. Culbreth, Ph. G., M. D., Professor of Botany, Materia Medica, and Pharmacognosy in the Maryland College of Pharmacy. With Four Hundred and Forty-five Illustrations. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-17 to 818. [Price, \$4.75.]

**Food in Health and Disease.** By I. Burney Yeo, M. D., F. R. C. P., Examiner in Medicine at the Royal College of Physicians, etc. With Illustrations. New and Revised Edition. Philadelphia: Lea Brothers & Co., 1896. Pp. viii-592. [Price, \$2.50.]

**Index-Catalogue of the Library of the Surgeon-General's Office, United States Army.** Authors and Subjects. Second Series. Vol. I. A-Azzuri. 1896.

**Transactions of the Association of American Physicians.** Eleventh Session, held in Washington, D. C. Vol. XI.

**Die Infektions-Krankheiten. Ihre Abwehr und Unterdrückung.** Von Dr. Heurich Berger, königl. Kreisphysicus in Neustadt a. Rbge. (Hannover). Braunschweig: Friedrich Vieweg und Sohn, 1896. Pp. viii-3 to 310.

**Constipation. Some of its Effects, and its Non-medical Treatment.** By E. S. Pettyjohn, M. D., Alma, Michigan. [Reprinted from the *Journal of the American Medical Association*.]

**The Frequent Dependence of Insomnia, Mental Depression, and other Neurasthenic Symptoms upon Diseases of the Gastro-intestinal Tract.** By Boardman Reed, M. D., Atlantic City. [Reprinted from the *Journal of the American Medical Association*.]

**A New Spectacle Lens—A Compound Achromatic Periscope.** By F. Park Lewis, M. D., Buffalo. [Reprinted from the *Medical Record*.]

**The Parasitic Origin of Carcinoma.** By Charles F. Craig, M. D., Danbury, Connecticut. [Reprinted from the *Proceedings of the Connecticut Medical Society*.]

**A Report on Surgery and Nature's Antiseptics.** By J. Schwinn, M. D., Wheeling, West Virginia. [Reprinted from the *Transactions of the Medical Society of West Virginia*.]

**Eye Symptoms in Nephritis, as seen with the Ophthalmoscope.** By William Cheatham, M. D., Louisville. [Reprinted from the *American Practitioner and News*.]

**Anatomy, Descriptive and Surgical.** By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons, etc. A New Edition, thoroughly revised by American Authorities from the Thirteenth English Edition. Edited by T. Pickering Pick, F. R. C. S. With Seven Hun-

dred and Seventy-two Illustrations, many of which are New. Philadelphia and New York: Lea Brothers and Company, 1896. Pp. 9 to 1249. [Price, \$8.]

**A Practical Treatise on Materia Medica and Therapeutics.** By Roberts Bartholow, M. A., M. D., LL. D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Ninth Edition, revised and enlarged. New York: D. Appleton & Co., 1896. Pp. xx-866.

**An American Text-book of Applied Therapeutics.** For the Use of Practitioners and Students. Edited by J. C. Wilson, M. D., Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College, etc.; assisted by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Philadelphia: W. B. Saunders, 1896. Pp. 5 to 1326. [Price, \$7.]

**A Handbook of Pathological Anatomy and Histology.** With an Introductory Section on Post-mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M. D., LL. D., Professor of the Practice of Medicine, College of Physicians and Surgeons, New York, etc., and T. Mitchell Prudden, M. D., Professor of Pathology and Director of the Laboratories of Histology, Pathology, and Bacteriology, College of Physicians and Surgeons, New York. Fifth Edition. Illustrated by Three Hundred and Sixty-five Wood Engravings printed in black and Colors. New York: William Wood & Co., 1896. Pp. viii-3 to 846.

**A Manual of Pharmacology and Therapeutics.** By William Murrell, M. D., F. R. C. P., Physician to and Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Revised by Frederick A. Castle, M. D., etc. New York: William Wood & Co., 1896. Pp. vi-516.

**The Medical and Surgical Uses of Electricity.** By A. D. Rockwell, A. M., M. D., Fellow of the New York Academy of Medicine, etc. Illustrated with Two Hundred Engravings. New Edition. New York: William Wood & Co., 1896. Pp. xvi-612.

**A System of Surgery.** By Various Authors. Edited by Frederick Treves, F. R. C. S., Surgeon to and Lecturer on Surgery at the London Hospital, etc. Vol. II. With Two Colored Plates and Four Hundred and Eighty-seven Illustrations. Philadelphia: Lea Brothers & Co., 1896. Pp. xxiv-1120. [Price, \$8.]

**Functional Disorders of the Nervous System in Women.** By T. J. McGillicuddy, A. M., M. D., Consulting Physician to the Italian Hospital, New York, etc. Illustrated by Forty-five Wood Engravings and Two Chromolithographic Plates. New York: William Wood & Co., 1896. Pp. vi-367.

**A Pictorial Atlas of Skin Diseases and Syphilitic Affections.** In Photo-lithochromes from Models in the Museum of the Saint Louis Hospital, Paris. With Explanatory Woodcuts and Text, by Ernest Besnier, Physician to the Saint Louis Hospital; A. Fournier, Professor of the Faculty of Medicine; Tenneson, Physician to the Saint Louis Hospital; Hallopeau, Member of the Academy of Medicine, and Du Castel, Physician to the Saint Louis Hospital. With the Co-operation of Henri Feulard, Curator of the Museum, and L. Jacquet, Secretary of the Dermatological Society of France, etc. Edited and annotated by J. J. Pringle, M. B., F. R. C. P., Assistant Physician to and Physician to the Department for Diseases of the Skin at the Middlesex



Hospital, London. London: The Reiman Publishing Co., Ltd., and Philadelphia: W. B. Saunders, 1896.

A Vest-Pocket Medical Dictionary. By Albert Buck, M. D., New York. New York: William Wood & Co., 1896. Pp. vi 529.

The Tonic Treatment of Syphilis. By E. L. Keyes, A. M., M. D., Late Professor of Dermatology, Syphilology, and Genito-urinary Surgery, Bellevue Hospital Medical College, etc. Revised Edition. New York: D. Appleton & Co., 1896. Pp. x-78.

Röntgen Rays and Phenomena of the Anode and Cathode. Principles, Applications, and Theories. By Edward P. Thompson, M. E., E. E. Concluding Chapter by Professor William A. Anthony, formerly of Cornell University. Sixty Diagrams. Forty-five Half-tones. New York: D. Van Nostrand & Co., 1896. Pp. xiv-190.

Feeding in Early Infancy. By Arthur V. Meigs, M. D. Philadelphia: W. B. Saunders, 1896.

Transactions of the Medical Society of the State of West Virginia, June 10, 11, and 12, 1896.

Humane Society of the Commonwealth of Massachusetts. Report. 1895 and 1896.

The Treatment of Traumatic Lesions of the Kidney, with Tables of One Hundred and Fifty-five Cases. By W. Williams Keen, M. D. [Reprinted from the *Annals of Surgery*.]

Gangrene as a Complication and Sequel of the Continued Fevers, especially of Typhoid. By W. W. Keen, M. D. [Reprinted from the *Boston Medical and Surgical Journal*.]

The Technics of Abdominal Salpingo-oophorectomy without Pedicle. By T. J. Watkins, M. D., Chicago. [Reprinted from the *Medical News*.]

Induced Premature Labor. By J. G. Swayne, M. D., London. [Reprinted from the *Bristol Médico-chirurgical Journal*.]

A Case of Urticaria of the Conjunctiva. By S. M. Stocker, M. D., of Duluth, Minnesota. [Reprinted from the *Annals of Ophthalmology and Otology*.]

Prostitution—No License, but Prohibition. By G. Maxwell Christie, M. D., Philadelphia. [Reprinted from the *Hahnemannian Monthly*.]

## New Inventions, etc.

### AN ASEPTIC INJECTOR.

By WALTER F. CHAPPEL, M. D.,

SURGEON TO THE NEW YORK CITY, AIR, AND THROAT HOSPITAL.

SOME objection has been raised to the use of a cat's hair brush, as recommended by me, for the application of the new compound, oleostearate of zinc, to the nasal passages.

After considerable experimentation, the instrument shown in the illustration was suggested to me by Mr. William J. Evans. The construction is such that the medicine employed can not enter the rubber bulb, being prevented from doing so by the conoidal chamber, formed on the principle of a safety ink bottle, thus making the injector aseptic. The rubber bulb limits the amount of force used, which is always an important matter in nose and ear work.

The use of the injector is not confined to semi-

fluid preparations or to the nasal passages; in fact, any solution may be employed in it, and where a limited amount of force and fluid is needed, this injector is



available for any of the various mucous passages and also for eye and ear applications.

Directions for nasal use: Draw the fluid into the aseptic injector as you would into a medicine dropper; keep the rubber bulb upward and insert the glass tip into the nostril a short distance; then, tipping the head backward, hold the breath for a moment and press on the bulb. These directions apply to either nostril. When required for other purposes, suitable directions will suggest themselves to the physician.

## Miscellany.

**Poisoning with Scopolamine.**—In the *Medical News* for September 12th the following case is related by Dr. Matthias L. Foster:

A young laboring man, who had been treated for a considerable time for a mild form of trachoma, was found to be astigmatic, and it was decided to be advisable to examine him under the influence of a mydriatic. Scopolamine was chosen, and four instillations of one drop of a fifth-of-one-per-cent. solution were made in each eye at intervals of ten minutes, commencing at 8 p. m. Fifteen minutes after the last instillation, a little over an hour after the first, the patient complained of dizziness, and was obliged to lie down. This was followed by dryness of the throat, nausea and attempts to vomit, flushing of the face, decrease in the strength, and increase in the rapidity of the pulse, symptoms which increased with alarming rapidity for half an hour, and reached their culmination in about two hours. At the end of half an hour the pulse was over 160 a minute and very weak, the face was growing darker until it became mildly cyanotic, the patient was unconscious and wildly delirious. The muscles of the extremities were frequently and strongly convulsed. When at the worst it took the strength of several men to hold him, and some doubt was expressed by the gentlemen gathered about him whether his struggles were the result of the active delirium which was present or spasmodic contractions of the muscles from the irritation of the drug. The pharyngeal muscles appeared to be in a state of paresis.

These symptoms began to abate in about two hours under energetic treatment with morphine and whisky, and the improvement progressed so rapidly that the patient was able to leave the hospital and walk home at 6 a. m., ten hours after the first drop was instilled. Nausea and dizziness persisted for a day longer. The recovery from the mydriasis was in the usual time.

It should not be inferred from such a history as this, says Dr. Foster, that scopolamine is too dangerous a drug to use, but it should be understood that it is too dangerous a drug to use without proper care and precaution. Certain individuals, he says, are, without doubt, more susceptible to its influence than others, and the rapidity of its action suggests a way in which it may be possible to avoid giving an overdose. The observations in regard to its effect on the ciliary muscle show that the time necessary for complete paralysis varies from ten to sixty minutes, and that the quantity of solution of the usual strength required to produce this effect is from one to five drops; hence it is wise to test the accommodation before the second and all succeeding instillations, to avoid the unnecessary use of the drug after the ciliary paralysis is complete. Another practical precautionary measure is to occlude the tear-ducts by means of pressure by the patient's finger as soon as a drop has been instilled into the conjunctival sac. This prevents the passage of the solution through the lacrymal passages into the nose and its absorption through the mucous membrane. When these two precautions are observed the danger of poisoning is reduced to a minimum.

**Canine Rabies in India.**—Mr. J. C. Vaughan, of West Bengal, contributes a paper on this subject to the *Indian Medical Gazette* for August in which he gives a detailed account of his experiences with rabies in his own dogs, the main points of which are as follows: In every case, he says, the first thing which aroused his suspicions was an excess of freshness, a greater display than usual of affection for their master, and a somewhat increased display of vigor and vitality in all they did, although combined, perhaps, with a slight nervous excitability; but there was no irritability or snapping at other dogs. There was, perhaps, a tendency to bark too much for no ostensible reason. The preliminary catarrh of which the veterinary surgeon, Mr. Martin, speaks did not occur in these dogs. The suspicious symptoms never proved to be a false alarm in the author's experience. The excitability showed a steady tendency to increase, and within twenty-four hours the dogs' eyes became dull and there was a half-dragged far-away expression in the face and eyes which was strangely out of keeping with the still restless and excitable manner. At this stage the food was eaten with increased greed and haste; there was still the curious isolated, purposeless bark, which was distinctly changed from the sound of the full bark. This voice condition was the first symptom of the weakening of the muscular innervation of the pharyngo-laryngeal region which, says the author, is so distinctive of hydrophobia. At this time also a frequent movement of the tongue was noticed. Gradually the excited manner quieted down, although occasionally the old excitement broke out and the eyes flashed with a dull light. In the next period of the affection there were tremors of the limbs, subsultus tendinum of all the legs, and a quivering in the lower jaw; there was a troubled sleep from which the dogs awoke more restless than ever. They were now quite mad, says Mr. Vaughan. The excitability, which had returned, the dull look in the eyes, the dilated pupils, the staring coat, and the slight stagger of the hind quarters which had set in, made up a picture which it was impossible to mistake. The dogs refused solid food, the temperature rose, the urine was high colored, and the faeces were almost black. Though they were still docile,

continues Mr. Vaughan, and glad to receive their master or visitors with expressions of affection, it was at this time that they became uncertain.

In this condition, he says, their jaws may snap together in the excited affection they show and they bite without meaning to. From this time they seem gradually to lose self-control and become more and more dangerous. Even at their very worst, the author states that his dogs never altogether lost their self-control, and that he was able to go up to them, carefully gloved, and pat them, and, although they snapped their jaws at him, it was unintentional, as their manner showed. The paralysis of the hind quarters and of the pharyngo-laryngeal region increases at this stage, and the period of excitement passes more or less quickly into one of deepening stupor from which there are often convulsive awakenings; the intervals between these grow longer, and finally death ensues.

The author states that he watched these cases very carefully to the end, and it is very clear, he thinks, that the disease described is the form known as furious rabies. Dumb rabies begins very much in the same way: the restless sleep seems to be the turning point, and the dog wakes up paralyzed, with dumb rabies or the furious form. A very dangerous period in the disease, Mr. Vaughan thinks, is the preliminary stage, just before the expression changes, for the nature of the case is then so hard to recognize.

A very important point is the question of the immediate treatment of bites from rabid dogs or doubtful ones. The author has always practised washing the wound freely at once and then burning it, not with solid silver nitrate, as is the usual way, but with strong fuming nitric acid or with strong hydrochloric acid. Even in the case of bites from rabid dogs this plan, he states, has effectually prevented hydrophobia. This treatment was carried out in the case of a relative of the author, who was bitten by a rabid dog twenty-four years ago, with a successful result, for the man is still living. On one occasion several dogs were bitten by a rabid dog; this treatment was at once instituted and none of the dogs died of hydrophobia. Mr. Vaughan thinks that the same trust can not be placed in nitrate of silver for the following reason: When it is a question of a deep bite from the long canine fang of a dog, the tooth, which is a blunt instrument, has been driven by main force through the skin into the tissues, and, when so driven in, was coated with the poison-containing saliva, which was forced into the intercellular spaces of the tissue penetrated by the tooth, and although some of it lies in the wound cavity or lines the edges of the wound cavity inside, some or most of it has been jammed into the intercellular spaces around that cavity, and lies deeper in the tissues. The wound cavity in the mean time is filled with and its sides moistened with serum containing albumin. The nitrate-of-silver stick now penetrates into the wound cavity, reaches the saliva and serum lining its sides, kills the lining cells, and coagulates all the albumin within reach. The albumin film thus formed makes, no doubt, says the author, a film which only protects the deeper-lying saliva and its poison; and in a deep penetrating bite forcing in a stick of nitrate of silver is very much like repeating the bite, and serves to drive the deeper-lying saliva only deeper still into the tissues and so to place it farther outside; hence better protected by the albumin-coagulum film formed in the wound by the nitrate-of-silver treatment. If no albumin was coagulated in the wound, the caustic

would or might reach the farthest off and most deeply lying saliva. But, as nitrate of silver forms an albumin coagulum, why not use, asks the author, an equally strong caustic which forms no coagulum? Hence the use of the fuming acid, which dissolves all albumin it reaches, and penetrates at once without the use of force into all the surrounding tissue spaces. The same holds good for all kinds of bites, and the penetrating acid kills all it reaches. One or two drops suffice for each bite, the slough soon separates, and the clean wound then left heals readily. Mr. Vaughan states that he has treated a great many bites in this way, and when his own dogs went mad he has invariably found that they had been bitten while he was away from home.

For the preceding reasons he says that he has always strongly objected to cauterizing any bites with nitrate of silver, and has invariably advocated the use of strong acid. But whatever the immediate treatment is, it must be prompt.

**Subcutaneous and Intravenous Saline Injections.**—At a recent meeting of the Congrès français de médecine interne, a report of which is published in the *Indépendance médicale* for September 9th, M. Vedel called attention to his investigations and the results of his experiments with injections of saline solutions. He had experimented on dogs with the simple saline solution after infection by intravenous injection of the *Bacillus coli* cultures, which causes rapid death and is accompanied by hemorrhages and gastro-intestinal troubles; the heart is very weak, the blood pressure is considerably lowered, diuresis is suppressed, and there is an elevation of temperature followed by hypothermia.

If the intravenous injection of serum is made during or immediately after the inoculation, the evolution of the disease is slower, and the general troubles are less pronounced. Recovery may be produced by several successive injections. If the infection is not intense, an early injection may even prevent the development of the infectious symptoms. A delay, even slight, in administering the saline injection after the inoculation does not give so favorable results, although recovery may still be possible. The consecutive injections are a great aid to the first one. After the first tardy injection there is a slight amelioration of the pulse, but it is impossible to arrest the hypothermia and the weakness of the heart. Then, an infected organism does not tolerate so well very large injections, which disorder the heart, with asphyxia, a comatose condition, convulsions consecutive to a peritoneal effusion, to a pulmonary hemorrhagic edema, and to effusions beneath the pia mater.

Doses of from twenty-five to thirty cubic centimetres a kilogramme, given as rapidly as from thirty to forty cubic centimetres a minute, have no injurious action, and generally from two to four doses bring about recovery. The first injection must be administered as soon as possible after the inoculation in order to obtain the greatest chances of recovery. As to the successive injections, the condition of the heart, of the temperature, and of diuresis it must be ascertained first. In making the prognosis it must be borne in mind that the reactional effects diminish after the first injections when recovery is to take place. If the diminution of the functional reactions is caused by the insufficiency of the injections, a progressive development of the infectious symptoms in an inverse direction will be witnessed.

M. Vedel states that he has made large injections as follows: In cholera, which perhaps is similar to *Ba-*

*illus coli* infection, there was jugulation. During the injection the general condition became ameliorated, the pulse grew more energetic, while intermittence was suppressed, the blood pressure was heightened, respiration was better, and the temperature rose. These effects were maintained for thirty or forty minutes; then the critical period of reaction set in; a violent chill supervened; the pulse was frequent and uneven, respiration was accelerated, there were spasms, and there was a rapid elevation of the central and peripheral temperature. At this stage the cold was followed by heat, the face became gaunt, the conjunctivæ were injected, respiration was painful, the pulse was accelerated, and the tendinous reflexes were exaggerated. This condition lasted about four hours and was accompanied by micturition, diarrhoea, and sweating; afterward the condition ameliorated and recovery took place, whether preceded or not by other reactions.

In a case of migratory pneumonia of the apex, accompanied with adynamia, in an alcoholic subject, in which the temperature had been elevated for ten days, the intravenous injection gave rise to the same symptoms. At the end of several hours the temperature, which had risen to 104.2°, fell to 96.6° F., and became normal after a few slight oscillations. In this case it was not a natural crisis provoked by the injection. In two cases of staphylococic infection with a disseminated purulent focus and a fever which varied greatly, the intravenous injections produced again the same general effects. The injection was not followed immediately by recovery by normal fixation, but there was an amelioration of the general condition, and the patients eventually were cured.

The injections, said M. Vedel, then brought about a true critical movement which was capable, in acute infections, of causing the immediate victory of the organism, and, in infections of slow evolution, with purulent foci, of restoring the strength, the heart, and especially the general nutrition, and of increasing the force of resistance. In the infectious diseases saline intravenous injections may always be administered. But they must be practised as soon as possible after the beginning of the infection, and the important indications must be looked for in the state of the pulse, of the blood pressure, of diuresis, and of the general condition.

Anuria and albuminuria are not contraindications of these injections. However, there are no contraindications, and accidents are impossible in the conditions laid down by the author. If the kidneys are profoundly and irremediably affected, strong doses must not be administered; also, if there is pulmonary edema, the injection must be graduated in case of an affection likely to cause hemorrhages, like the *Bacillus coli* infection, in order not to favor the very tendencies of the infection.

#### Conditions which may Simulate Organic Obstruction of the Large Intestine.

—The following is an abstract of a paper presented at the recent meeting of the Mississippi Valley Medical Association by Dr. Thomas H. Manley, of New York. The large intestine in any part, from the ileo-cæcal junction to the anal outlet, is liable to obstruction in varying degrees in its various segments. As the anatomical distinction between the large and the small intestine is very wide, and as they are altogether dissimilar in function, it necessarily follows that both the etiology and the symptoms of stenosis in either one should bear but little analogy to the other.

The small intestine is rich in smooth muscle and



adenoid elements, is richly supplied with non-medullated nerves from the sympathetic system, has a long free mesentery, is the centre of action of peristaltic movements, and, exclusive of the duodenum, is entirely within the peritoneal cavity. This is the centre of active, vital, and chemico-physical changes in digestion.

The large intestine, on the contrary, is little more than a sewer-vent to receive, lodge, and discharge the residual detritus of digestion. It contains but little muscular fibre in its sacculated cylinder, but is strongly braced by dense bands of fibrous tissue. The inner coat is made up chiefly of mucous glands, and the lumen of the bowel is of quite constant dimensions. This part of the alimentary canal is more or less fixed, permitting of but a moderate range of motion. The large intestine is but imperfectly invested by peritonæum, and the rectum is almost entirely outside this membrane. The position, shape, and arrangement of the colon favor many pathological processes in the human being.

In function, this elongated, arched, and flexed coil serves a similar purpose to that of the bladder, as a pouch for excrement; vastly more complicated, it would seem, than its purposes require. The healthy mucous membrane of the bladder is proof against the absorption of non-corrosive poisons in solution, while the rectal end of the large intestine absorbs almost any substance in a soluble state; and, in cases of impaction, or fæcal stasis, we have reason to believe that the large intestine resorbs many of the most lethal elements of its own contents.

Probably there is no organ in the body more subject to atypical deviation in development and in its relations than the colon. This is particularly manifest to the surgeon in operations on its cæcal end, as has been ably dwelt on in an essay by Dr. Theodore A. McGraw, of Detroit, on *The Surgery of the Large Intestine*.

In the human subject the alvine current must ascend against gravity, make various detours as it clears the colic valve, course around three sharp angles, and pass the double flexures in the sigmoid, before it is discharged into the rectum preliminary to expulsion.

The segments of the colon liable to displacement and inclusion in hernia are: 1, the cæcum and appendix; 2, the transverse colon in umbilical hernia; 3, the sigmoid flexure. The third is the rarest, although a case came under my notice this summer (1896) in a young gentleman brought to me by Dr. J. B. Cowan, of Radford, Virginia, who had been treated for stricture of the rectum. There was found no rectal stricture, but a partial escape of the sigmoid, which, when caught in the inguinal rings, would give rise to symptoms of rectal obstruction. I have met with the cæcum in operations for strangulated and irreducible inguinal hernia. In a large umbilical hernia the transverse colon is frequently engaged.

In my own experience in this type of extrusions, either in inflamed, incarcerated, or strangulated hernia, the symptoms of collapse do not set in so early as when the small intestine is involved.

*Sex and physiological condition* play an important rôle in the ætiology of pathological conditions in the rectal end of the large intestine. A careful study of the radical difference of the anatomy and the functions of the organs near the pelvic outlet will readily convince one of this. The genital organs here come into play as a prominent factor. In the male of advanced years, an hypertrophied prostate may press steadily on the rectal ampulla, provoking an irritation and, in aggravated

cases, acting as a barrier to defecation, thus inducing symptoms of obstruction. It is in the female, however, that the influence of genital ectopia or fæcal impaction of the rectum is most pronounced. Here the pelvic genitalia and the crippled rectum act on each other. A retroverted, enlarged uterus may so encroach on the anterior wall of the rectum as to quite close its lumen, excite a proctitis and tenesmus, or even give rise to such a condition as to lead the unwary to suspect a neoplasm of the rectum. This actually occurred in two cases which have come under my notice, in each of which the uterine body, crowding against the rectum, led to the opinion that a tumor had formed in its walls. In each a pessary relieved all the symptoms. At the present time an elderly lady who is under my care with an incurable procidentia suffers all her distress from rectal symptoms. And *per contra*, how many women there are, tentatively treated for various uterine and vesical disorders, whose entire troubles depend on either cæcal, sigmoid, or rectal impaction!

Intestinal obstruction of various degrees occurs at any stage of life, but in the large intestine, if we exclude intussusception—a condition peculiar to early life—we rarely encounter it until the vital forces commence to fail and degenerative changes begin, when the teeth have fallen out and the glands have diminished in activity. Mechanical obstruction in the large bowel depends on influences of two orders—the intrinsic or organic, and the extrinsic or indirect; the latter only will be briefly considered here. This may be complete or incomplete. It develops in consequence of (a) inertia or atony of the intestine with fæcal impaction; (b) ectopia of adjacent organs, or morbid growths of structure, second in order of frequency; (c) hernia of various types—the rarest, most acute, and most dangerous. The immediate danger to life from impediment in the large intestine, except in hernia, is not great; in the chronic form, the constitution is undermined by conditions consecutive to colic stasis.

In the rectum we find the most palpable evidence of pathological changes; first, in their degenerative vascular changes so generally met with here, especially in the childbearing woman; and, secondly, in the damage to the levator ani, a muscle which serves a complex purpose in her sex. At the anal verge and just above it we may find a dense hypertrophy of the submucous tissue encircling the entire bowel. This may or may not prolapse in defecation, but, at all events, it often serves as an impediment to evacuation or a complete clearing of the rectum. In a recent case in which I operated it produced so many symptoms of obstruction that a stricture was suspected by the physician who sent the patient to me.

In women after the menopause the pelvic organs undergo atrophic changes which seem to extend to the rectal structures, for in many, late in life, moderate impaction of the rectum is very general, and it is by no means uncommon in elderly men who neglect their regular evacuations or are prone to degenerative lesions of the spinal cord, such, especially, as involve the trophic or sensory nerves.

*Hernial protrusion* often comes late in life, or but a small unnoticed rupture has existed, to give trouble later. A young man came under my care some years ago in a sad state from hernial gangrene. He had had a swelling in the right groin for several months. He did nothing for it until it finally began to give him pain. Then he went the rounds of the dispensaries,

and it was repeatedly poulticed. After a time it broke through the skin; the displaced cecum had ruptured in a rotten, gangrenous state and had allowed the feces to escape through the new opening. An error in diagnosis had been committed and a life lost. As some individuals go for weeks without a full motion from the bowels, they may deceive the physician by not mentioning this when they come under his care.

Massive tumors, the pregnant uterus, and a displaced kidney may all interfere with full colic action and lead to symptoms of obstruction.

The symptoms which attend rectal or colic obstruction are local and general. In partial or complete obstruction of the large intestine, the dominant symptoms are local. One patient is constive; he thinks he has "piles" or vesical disease, from pressure on the bladder, as occurred in one of my own, a gentleman from whom I removed a massive rectal enterolith as large as a foetal head, which had to be split and removed in sections. It was most remarkable that the patient was entirely unconscious of its presence, though he had severe troublesome vesical symptoms. For fourteen years his bowels had moved only when his valet gave him enemas. He assured me that he was confident the petrified mass had been lodged there fourteen years, and in this view his son, who is a physician, concurred.

In diagnosis the most frequent lesion liable to be confounded with extrinsic obstruction of the large intestine is cancer. This dreadful malady works great havoc here. According to Sutton, ninety-eight per cent. of cancers of the bowels occur in the large intestine—namely, seventy-five per cent. in the rectum, ten per cent. in the sigmoid, four per cent. in the splenic flexure, three per cent. in the hepatic flexure, two per cent. in the cecum, and four per cent. not specified.

We endeavor to make a diagnosis in this class of cases by surface and rectal explorations. In persons who are not too fat much valuable information may be elicited by abdominal examination, by percussion and posture of the body. It will answer in most cases of cæcal or sigmoid impaction, alone or conjoined with bimanual manipulation. In acute cases, we should always institute a most thorough search for hernia and not be content with inspection, but test all suspected portals of escape by the tactile sense.

Rectal examination is the most positive and valuable in its results as a diagnostic resource. In all suspected cases, this should be insisted on. One patient may insist that his bowels are "loose" or that he completely evacuates them, when neither is the case. Sensation is blunted, and he unconsciously deceives himself. This examination is of most importance in women, on whom it may usually be made most complete. It entails practically no exposure, and with few exceptions is quite painless. The type of alvine obstruction here considered, excluding that induced by hernia, should never of itself seriously threaten life. It only needs to be definitely recognized to be safely and permanently relieved.

**The Serum Treatment of Cancer.**—At a recent meeting of the *Congrès français de médecine interne*, a report of which appears in the *Gazette médicale de Paris* for August 29th, M. Dubois stated that he had introduced fragments of cancers taken from human subjects into the cellular tissue of animals and had obtained several tumors, the largest of which weighed between seventeen and eighteen ounces. The serum of these inoculated animals was then employed in three cases of

cancer. In the first case there was non-ulcerative cancer of the breast in which the treatment led to an almost complete recovery after a period of forty-five days. The second case was one of epithelioma of the face, which subsided in thirty-nine days. In each case from two to five cubic centimetres of the serum had been injected in the region of the tumor every three days, and a few drops of alcohol with a very small quantity of iodine had been injected around the tumor in the second case. The third case was one of relapsing epithelioma of the upper lip, which was very much ulcerated and highly inflamed, and after twenty-three days of the treatment the progress of the tumor seemed to have been arrested, but it presented no tendency to complete recovery. From these facts M. Dubois concluded that the serum of animals inoculated with cancerous elements seemed to cure cancer by fibrous transformation. Its action was much more certain, he said, when it was employed in the beginning of the disease. He thought its employment presented no dangers, except in cases of extensive lesions.

M. Bard stated that he did not believe that the tumors which were obtained in the animals by inoculation were of a really cancerous nature; he thought that they were simply of an inflammatory nature and not true neoplasms. The local reaction produced in the animals did not prove that they had been influenced by the inoculated cancerous elements. Furthermore, he thought that the alcohol and iodine which had been employed in the second case might have had a local action which diminished that of the serum. Moreover, serum injections in the region of a tumor caused, in some cases, a local inflammation which was sometimes useful; therefore he did not consider M. Dubois's experiments conclusive.

#### **The Treatment of Inflammation of the Milk-ducts.**—

In the *Gazette de gynécologie* for August 15th M. Brindeau remarks that, as this disease is caused by an infection which attacks the external orifice of the ducts, its production may be arrested to a certain degree by prophylactic measures. The patient should be directed not to touch the affected region any more than possible, and told that before and after nursing she should carefully wash the nipple with warm boracic acid water. Finally, a dressing should be kept on the breast. If the child presents any suppurative whatever, and especially conjunctivitis, the diseased region should be isolated by means of a protective dressing.

When the affection is observed, says the author, the treatment recommended by M. Budin should be resorted to, as it gives excellent results. It consists in the evacuation of the pus by digital pressure, which should be done in a certain way. At first the ampullæ of the galactophorous canals are emptied. To do this, the thumb and the index finger are applied to the outer part of the areola, then strong pressure is brought to bear from before backward, and from the surface toward the depth; the two fingers are then brought nearer together while continuing the pressure up to the nipple. This causes the expulsion of the pus and of the milk also. This procedure is practised on different parts until the pus ceases to discharge. If the infection has invaded a lobe, it should be subjected to pressure from without inward in such a manner as to draw the pus back into the galactophorous canal, which is then emptied in the manner previously indicated. After this procedure the breast is washed with a slightly antiseptic



liquid and then it is compressed and held up firmly. This procedure, says M. Brindeau, has the twofold advantage of influencing the disease and preventing the patient from nursing with the diseased breast. Infants should not, in fact, nurse from a diseased breast under any pretext. The dressing should be withdrawn at night in order to repeat the treatment, which should be continued until no pus remains in the gland. It is advisable to allow an interval of two or three days to pass before the child is permitted to nurse. If lymphangitis exists at the same time, the treatment is the same, but it is much more painful, and, in certain cases, it is better to administer a little chloroform to the patient. The lymphangitis is to be treated with hot spraying and moist dressings. If an abscess forms in spite of the treatment, a large incision of the sac should be made. If the child continues to nurse from the healthy breast, and if the quantity of milk is insufficient, sterilized milk may be given.

#### **Pyrozone and Dilute Hydrochloric Acid in the Treatment of Suppurating Inflammations of the Middle Ear.**

—In the *Medical Record* for September 12th, Dr. William Cheatham calls attention to a line of treatment which, he says, has rendered him the best service in two cases of this most obstinate affection. In both cases the curette, chromic acid, pyrozone, formalin, boric acid, and many other remedies were employed, but no permanent relief was obtained. Finally the author directed that ten drops of a mixture of ten drops of dilute hydrochloric acid and an ounce of pyrozone should be put into the ear three times a day after cleansing it; the mixture was to be left in for five minutes after having been forced in deep by firm pressure upon the tragus. In the first case a remarkable change was noticed in a few days, and in a short time there was no secretion from the cavity, and there has been no return of it for several months. In the second case the patient began to improve rapidly in a few weeks, and recovery set in with no relapse.

Dr. Cheatham states that he has treated several similar cases with but one failure, and that occurred in a tuberculous subject. He has treated many cases of less severity with only an occasional failure, and he has not seen this treatment fail in acute cases. Of course in the primary stage of acute cases, he says, such medication is contraindicated, but after pain, throbbing, and swelling have subsided, and suppuration continues, notwithstanding ordinary treatment, the acid and pyrozone check it very promptly.

As to drainage in these cases, he says, the iodoform or some other of the gauzes cut into narrow strips has given him by far the best results.

This treatment is not a cure-all by any means, continues Dr. Cheatham, but he hopes this brief report will lead others to try the acid-and-pyrozone combination. Of course, when the deeper sinuses are involved surgery is first indicated, then the pyrozone and acid. Under its use he states that he finds mastoid-cell involvement much less frequent, and that he does not believe these effervescing preparations increase such dangers.

**The Employment of Turpentine Baths.**—A writer in the *Journal des praticiens* for August 29th states that these baths have been employed in the treatment of simple articular rheumatism by Dr. Smith and Dr. Howard Pinkney, of New York. The latter even recommends them for gout and eruptive fevers. M. Balzer was the first to use them in the treatment of blennor-

rhagic rheumatism, and obtained excellent results. The following formula is recommended by Dr. Smith:

Oil of turpentine.....	3 ounces;
Oil of rosemary.....	150 grains;
Sodium carbonate.....	15 ounces;
Water.....	30 ounces.

M. Balzer's formula is as follows:

Aqueous emulsion of black soap,	each, 3 ounces.
Oil of turpentine,	

These baths are to be employed under two forms, general and local. The former is indicated when several articulations are affected or when the situation of the diseased joint is incompatible with a local bath. Quantities varying from four ounces and a half to fifteen ounces and even twenty-two ounces of the turpentine mixture may be employed, according to the susceptibility of the patient's skin, for the baths produce a pronounced burning sensation. The medium amount is twelve ounces. The bath should be prescribed as soon as possible, and the temperature should be gradually increased until it reaches 104° or 107.3° F., provided the patient does not complain. The bath may last from ten to twenty minutes. Some inconveniences may be noticed, such as a burning sensation of the skin of the genital organs, but this may be avoided by covering the parts with a greasy substance.

Local baths, says the writer, are preferable, and should be resorted to, if possible, in all cases. From an ounce and a half to three ounces of Balzer's mixture is put into the bath and the temperature raised to 122° F. if the patient can bear it. Local and general baths may be alternated.

There are certain precautions to be taken in connection with this treatment. It must not be employed until the acute symptoms have disappeared and the temperature has fallen, and the susceptibility of the patient must be ascertained. The effects are constant and consist in a rather sharp burning accompanied by a pricking sensation; at the end of fifteen minutes the skin is hot and completely red. The pain is immediately relieved while the patient is in the bath, and this relief persists afterward for two or three hours.

**Carbuncle treated with Zinc Chloride, Boric Acid, and Iodoform.**—Assistant Surgeon P. Victor, of Khulna, relates the following case in the *Indian Medical Record* for August 16th: The patient, a man forty-five years old, suffered from a huge carbuncle on his back; it measured twelve inches in length and seven inches in width. There was oozing of pus from several small openings. As the patient was too weak and exhausted, and had a temperature of 102° F., the author refrained from placing him under the influence of chloroform at once, and making a free incision, and scraping. He therefore ordered a large carbon poultice to be applied every four hours, which broke down the skin and showed a very large gaping wound with sloughs in abundance. The wound was thoroughly washed with antiseptic lotion, and the entire surface brushed with a solution containing four grains of zinc chloride to an ounce of water. It was then dusted with equal parts of boric acid and iodoform, and dressed with antiseptic gauze. As the discharge was very profuse, the dressings became saturated, so the carbuncle was dressed daily and brushed with the zinc chloride solution every second day. On the eighth day the fever abated, and on the ninth day the wound was clear of all sloughs, and looked healthy and granulating.



On the twentieth day after the patient's admission to the hospital the wound was healthy and smaller, having diminished to eight inches in length and three inches in width. The patient's condition was much improved, as he had been kept on a nourishing diet with liquor carnis one drachm every four hours, and a mixture of bark and ammonia thrice daily. The exuberant granulations were kept down by an occasional touch of sulphate of copper and the wound dressed with the red lotion, two grains of zinc sulphate, twenty minims of tincture of lavender, and an ounce of water.

The patient was discharged cured on the 19th of July. The knife was quite dispensed with, says the author, and with the help of the zinc-chloride solution and strict antiseptic dressing the patient made a good recovery. The urine was free from sugar and no diabetic symptoms were present.

**Virol.**—The *Indian Lancet* for August 16th says that three years ago the Liquor Carnis Company introduced bone-marrow as a food for invalids in the form of virol, and that since then great improvements have been made in the process of manufacture and in the preparation itself. Originally the manufacturers intended virol to be a palatable substitute for cod-liver oil, but it has been thought to be useful as a fat food for infants and young children, and it is now used very largely in a great many children's hospitals and also by the public. It has an advantage over milk, as it contains iron, and it also possesses an advantage over nearly all the advertised infant's foods, inasmuch as it contains free fat which is strongly urged in the diet of infants by Dr. Fothergill and Dr. Cheadle.

**Serum in the Treatment of Mental and Nervous Diseases.**—At a recent meeting of the Congrès français de médecine, a report of which appears in the *Progrès médical* for September 5th, M. Monret and M. Vires stated that they had injected the serum taken from a maniac who had recovered into two others who were at the height of maniacal excitement. To the first patient three injections of ten cubic centimetres each were given at intervals of two or three days during the period of agitation. The injections were followed by a condition of apathy and somnolence, but twelve hours afterward this condition disappeared and a fresh attack occurred. The second patient, after the injection, fell into a deep sleep, but gradually his mental and physical condition became ameliorated, and, finally, he left the hospital cured.

The authors thought that these injections had exercised a favorable influence in promoting the recovery of the patient. At any rate, they drew the following conclusions: 1. That the blood serum of a convalescent injected into a patient was harmless, either locally or in regard to the general nutrition. 2. That the hygienic effects of this serum were very distinct and very profound.

**A Peculiar Symptom of Dry Pleurisy.**—The *Indépendance médicale* for September 2d publishes a report of a recent meeting of the Congrès de Nancy, at which M. de Langenhagen related the case of a tuberculous arthritic patient in whom there was a limited lesion at the right apex which appeared to be arrested. Several times during one winter the patient had an attack of dry pleurisy which was situated very near the diaphragm at a distance from the tuberculous region, which re-

mained dormant. One of the attacks occurred in the diaphragmatic pleura. The author observed then frequent eructations, each one of which was accompanied by a very sharp pain which extended far under the median line, along the œsophagus, and laterally toward the right attachments of the diaphragm.

This peculiar and violent pain persisted for several days, as well as the dyspnea and the other symptoms, but it diminished, as they did, under the influence of morphia.

This painful sensation was, said the author, no doubt, connected with the passage of the gases which were suddenly forced back by regurgitation from the stomach. These gases distended the œsophagus, which, subjected to an abnormal pressure, caused a deviation of the posterior pillars of the diaphragm, the contractions of which were communicated to the phrenic centre, to the anterior insertions of the muscle, and these insertions, through their connection with the diseased pleura, became irritated.

This pain, the author thought, was analogous to the pain which occurred on deglutition, which was sometimes observed in intense pleural effusions. Both were of mechanical origin, and were produced by a gaseous pressure in cases of dry pleurisy.

**A Remedy for Stage-fright.**—The *Lyon médical* for September 6th states that, according to the *Médecine moderne* for August 22d, an American physician advises students to combat the nervous asthenia which paralyzes their faculties and causes them to lose the thread of their ideas by taking ten drops of tincture of gelsemium three times a day. For the same purpose an English specialist prescribes wine of opium to be taken by actors and singers before going on the stage. From five to six drops, he says, will give to the most timid actress the self-possession of the most spirited old player.

**Medicinal Treatment of Irritable Temper.**—In the September number of the *Glasgow Medical Journal* there is an abstract of an article from the July number of the *Practitioner* in which the writer says that Dr. Lauder Brunton has paid some attention to the subject of bad temper as an indication of diseased conditions, and to the method by which relief of a symptom so personally and socially distressing can be obtained. Some time ago he noted that unwanted irritability of temper was often the precursor of a headache, and described the beneficial action of bromide of potassium and salicylate of sodium in relieving the headache. He now recommends the same combination for irritability of temper occurring in connection with various diseases, and more especially in gout and heart disease. The beneficial effect of the bromide upon the irritable nerve centres is, of course, universally recognized, and Dr. Brunton considers that the researches of Dr. Alexander Haig justify the conclusion that the salicylate of sodium is of value by promoting the elimination of uric acid. Referring to irritability of temper as a symptom of cardiac disease, Dr. Brunton remarks upon its frequency, and quotes the case of a child in whom it was the only symptom of mitral regurgitation, the physical evidence of the disease being observed almost by accident. He finds the above-mentioned remedies to be valuable adjuncts to the use of digitalis and other cardiac tonics. They improve the subjective condition of the patient, and thus facilitate his recognition of improvement.

## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.

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#### LECTURE V.—PSEUDO-ANGINA PECTORIS.

(Concluded from page 411.)

HYSTERICAL angina in the male is usually a very well-characterized affection. The following cases are the most typical which I have seen:

CASE V.—W. H., seen with Dr. Purvis, of Alexandria, aged thirty-two years, complaining of severe attacks of pain about the heart.

The patient comes of excellent German stock. His mother is alive and his brothers and sisters are well and strong; there are no special nervous troubles in the family. Though an hotel-keeper he has been very abstemious in the use of alcohol. He has never had syphilis. He has been nervous from boyhood. When about fifteen he had a fright, after which he had nervous spells, called fits, for several years. From his description, they were evidently severe hysterical attacks. At the age of twenty-three he had scarlet fever and diphtheria, and nearly lost his life. For the past six years he has had a great deal of mental worry, and for nearly two years a good deal of extra financial strain. During this time he has had at intervals what he calls nervous attacks. He would get numb in his feet and then in his legs, and a sensation would rise in his body like a wave, making him cold and faint.

Dr. Purvis, who has seen him in the spells, says they are evidently hysterical. He does not lose consciousness.

For the past three months he has had different attacks, consisting of very agonizing pain about the heart, extending to the shoulders and down the arm even to the fingers, very frequently only to the index finger and thumb of the left hand. They have come on most frequently while walking. He catches his breath and has frequently had to sit down on a doorstep. He describes the pain as very agonizing, but he makes no mention of any sensation like that of impending death. His hands get cold; sometimes the feet are cold, and he has at times broken out into a profuse perspiration. The attacks have recurred with great frequency. He has had as many as four in the twenty-four hours. Worry, over-exertion, and on several occasions a full meal, have caused attacks. They have increased rather than diminished during the past month.

The patient was a healthy-looking, well-nourished man, of good color, of fair physique, with black hair and eyes. The pulse was quiet (80 a minute), tension not increased. He flushed easily, and there was the most marked factitious urticaria and dermatographia. The apex beat was not visible and not palpable. The superficial cardiac dullness was not increased. The sounds at the apex were clear. There was no accentuation of the aortic second, and there were no murmurs. There were no painful spots about the præcordia. The patient subsequently entered the private ward of the hospital, where he had several attacks of the character above described.

CASE VI.—On May 23d I saw at the Rennett Hotel,

Dr. R., aged thirty-three years, a physician from one of the Northern cities, who had had a series of most severe attacks dating from May 15th.

The patient, a man of very high-strung, nervous organization, had had a very hard battle in life, overcoming almost insuperable physical difficulties. His general health had been very good. He had been a very hard student, and had done much work outside his ordinary professional duties. Three years ago, while engaged in instructing a class, he felt suddenly a terrible pain in the heart, and a numbness extended down the left arm and leg. He was unable to stand, but did not lose consciousness. He recovered from this attack in the course of an hour or so, and had no recurrence until the 15th of the present month. At 5.30 P. M., while in a cab, he was suddenly seized with an agonizing pain just below the left nipple. There were numbness and tingling in the left arm and leg. That night the pains recurred, and from his wife's account he evidently had a series of hysterical attacks; he became very emotional, wept, and had remarkable delusions. The pain was of such severity that he had to have morphine. The pulse was very variable, and at one time became extremely rapid, above 160. His face was flushed, not pale.

On Sunday, the 17th, he was better, and on Monday he was all right and attended to his practice. On Tuesday, while performing a minor operation, he had a recurrence of the agonizing pain. He said: "Words can not describe my torture, but I went on and completed the operation."

On Tuesday evening he had another severe seizure, and had to have morphine hypodermically, and took chloral and bromide through the night.

On Wednesday he was in very bad condition, was nervous, emotional, and quite delirious. On Thursday he was annoyed by a cabman, and had an attack in the street, which upset him very much, but which was not, however, followed by delirium.

Altogether, in the past eight days, he has had five or six paroxysms of great intensity. In the attacks his wife says he is very restless, gets quite beside himself with the pain, and demands morphine at once. He has had all sorts of delusions, and has been in a most unnatural mental condition.

Patient was very healthy-looking, evidently very high-strung and nervous, a man who had for years lived far too intensely, and had worked very carelessly and with too much friction.

The physical examination was entirely negative. The pulse was quiet, without increase in tension. The heart sounds were clear, without accentuation of the aortic second. The vasomotor system was extremely labile, and the slightest scratch was followed by an active reaction.

The persistence of pseudo-angina is sometimes very remarkable. In 1888 I was consulted, in Philadelphia, by an old friend, a physician from the Province of Quebec, who had very severe heart disease. While I was visiting him late one evening at the Lafayette Hotel, he asked me to step into the next room and see his wife, a woman sixty years of age, whom I found prostrate on the bed with her hands clasped over her heart, rocking herself from side to side, in an agony of pain. Her hands and feet were cold, the face somewhat flushed,



the pulse small and rapid. I could not get an answer from her, but when I returned to the room the doctor said not to worry (I seemed anxious about her), that she would come all right in a little while. He assured me that for more than thirty years she had been subject to these attacks, particularly when overanxious or worried. She was a very nervous woman, had been hysterical when young, and though at first her husband and other physicians thought the attacks very serious, they passed off so quickly, particularly under the influence of a hot whisky punch, that he had ceased to regard them as in any way dangerous.

*Vasomotor phenomena* are rarely absent in attacks of true angina, but they are even more pronounced in the nervous and hysterical subjects. Nothnagel has described a special type, *angina pectoris vasomotoria*.\* In the four cases (all men) the symptoms consisted of peculiar sensations in the extremities or on one side of the body, with coldness and sometimes lividity of the hands and feet and sweating. With this there were palpitation of the heart, terrible præcordial anxiety or pain, and sometimes feelings of faintness. A striking feature in these cases was the tendency of the attacks to occur in the cold, or on washing the hands in cold water. Nothnagel regarded these vasomotor phenomena as the primary features, and the cardiac embarrassment and distress as secondary to a widespread vaso-constrictor influence throughout the arterial system.

A good deal of discussion has taken place upon the propriety of recognizing this as a special type, and considering the frequency of vasomotor changes in both organic and functional forms it does seem doubtful; and yet the cases are wonderfully well characterized and in the most pronounced degree always, I think, of the functional variety. In a large proportion the vaso-constrictor influences dominate, and there is pallor with coldness. I remember but one instance in which the vaso-dilator phenomena alone were marked.

In 1887 I saw (Case VII), in Toronto, a lady, aged thirty-five years, stout, well nourished, the mother of five or six children, who had been the subject, at intervals, of very puzzling and distressing attacks. Without any special reference to the menstrual period, and following particularly worry or excitement, she would experience a feeling of distress about the heart amounting to actual pain, and the vessels of the face and of the extremities would become congested, and she felt cold and numb. But much more distressing than these were the sensations of great pain in the back of the head and neck. The attacks would last for twenty-four hours or more, and were sometimes very alarming. I could not gather from her that the pains about the heart were ever of a very agonizing character, but they were always severe. I was asked to see her to determine the presence or absence of a heart lesion. Both sounds seemed perfectly clear, and there were no signs of organic disease. I was much impressed with the evident neurotic condition of the patient, and suggested hys-

teria. I saw the patient in an attack, evidently hysterical; she was greatly prostrated, lay with the eyes closed, quite livid in the face, and the hands and feet were purplish in color and cold. She complained of great distress about the heart and agonizing pain in the back of the head and neck. The subsequent history has borne out the view taken of her case. Within a year or so she got perfectly well and has remained so, not having had an attack for nearly eight years.

Much more commonly there is pallor with the coldness. In women the attacks are apt to recur at or before the menstrual period.

Mrs. R. (Case VIII), aged forty years, consulted me in 1890 about attacks of severe pain in the region of the heart, which had recurred at intervals for eight years, since the birth of her last child. They were particularly liable to come on during the menstrual period, or whenever she was subject to any special mental strain or worry. The pains were very severe, immediately under the left breast, and passed up the neck and down the left arm. She did not flush with them, but, on the contrary, got pale and felt very cold, particularly in the hands and feet, which sometimes sweated. The pains were not continuous, but recurred at intervals extending over a period of several days. Diet, she thinks, had no special influence. She slept badly and dreamed a great deal. The patient was a stout, well-nourished woman of good color; the pulse was regular, about 80; the arteries were not sclerotic. There was no heart disease.

In women, as you will have noticed in the reports I have read, the features of coldness of the extremities with numbness and pallor are very common. In men this type may occur in a most marked degree, and the diagnosis may be for some time in doubt.

CASE IX.—A. B., aged forty-two years, seen December 30, 1895, complaining of paroxysmal attacks of terrible intensity, characterized by a feeling of suspended animation, as though the breath had left the body; at the same time the hands and feet get cold, and there is a sensation of stricture about the root of the neck.

The patient, who occupies a prominent position of trust, looks a healthy, vigorous man. His family history is excellent.

As a young man he was very well. He has never had syphilis; is a moderate drinker, and has used tobacco freely. Seven years ago, following a period in which he was very much overworked, he first had the attacks, which recurred for nearly eighteen months. At that time they caused him great alarm, but with the exception of two, they were not very severe. The present attacks date from just two months ago. He has been in his usual health, and knows of no special cause why they should have come on. A majority of the paroxysms have occurred at night, just as he was beginning to doze to sleep. He has had them also on the street, and seven years ago in one he had slight vertigo, and had to sit down on some steps, and he felt as he sat upon them as though they were rising and falling. The attacks may come on while he is sitting at his desk, or while he is reading quietly in his chair. Exercise is very apt to bring them on, and if he runs for a car or hurries upstairs he is apt either to have a severe attack or to experience a chilly feeling and the sensation which he

\* *Deutsches Archiv, f. klin. Medizin*, Bd. iii, 1867.



constantly speaks of as though his breath had all left him.

The sensations which he describes in the attack are very curious. He lays special stress on the feeling that the respiration had ceased, and it gives him some relief to draw several deep breaths. With this is associated a sense of great stricture about the lower part of the neck, and a terrible sensation about the heart, as though it was his last minute. He feels strangely in the head, and thinks he has a very wild look. The face becomes pale, the hands and feet get cold as ice, and become very clammy with perspiration, and in several attacks he has had a feeling of numbness in the legs from the knees down. He lays very great stress upon the sensation of coldness in the arms and legs, and says that on one occasion he took a warm bath, and even though the water was quite hot he still had a feeling of great coldness and numbness in his legs. In one attack the face and neck became very red and congested, and the nose bled profusely. There is invariably palpitation of the heart, and he has been told by his doctor that the pulse at the wrist becomes scarcely perceptible. In a paroxysm, seven years ago, he thinks he lost consciousness for a moment. He staggered and fell. In one attack at this time he had vertigo. As the paroxysm passes off he belches a great deal of wind. In several spells there has been a good deal of itching of the skin, and in one or two a marked twitching of the muscles. The duration of the entire paroxysm varies from two or three to ten or fifteen minutes. He finds that a strong drink of whisky will sometimes cut short an attack. In the two months since they recurred he has had on an average about four in a week. They have not all been severe. He has been much alarmed about them, and in several of the attacks both he and his wife have been greatly terrified.

Patient was a tall, well-grown, healthy-looking man. There was no arcus senilis; the pupils reacted readily to light. The pulse was soft and full, regular, tension low. The apex beat was just within the nipple line, not forcible; slight throbbing in the vessels of the neck. The percussion note was everywhere clear; there was no increase in the area of heart dullness. The heart sounds were clear; the aortic second was not accentuated; the breath sounds were equal on both sides; there was no dullness in either interscapular region, and no bruit round the course of the descending aorta (a diagnosis of aneurysm had been made). The cervical glands were not enlarged. The examination of the abdominal organs was negative. The knee-jerks were normal. There was no Romberg's symptom, and the pupil reflexes were active.

*January 1, 1896.*—The patient's wife came to-day to speak about her husband's condition. She says that last summer he had a few slight attacks. She mentions several features of interest, particularly the suddenness of the onset. For example, he will awaken from a perfectly sound sleep in a most alarming paroxysm, and his hands and feet will become cold; the face is usually pale, and the heart will throb most forcibly. Within a minute or two his hands will become as wet as though they had been dipped in water. She remembers two or three attacks in which the face became quite congested and full instead of pale. He is greatly terrified, and always feels that he is going to die. What has reassured her always is the fact that within ten or twelve minutes, sometimes less, he is laughing and talking, quite free from pain. She does not think that

he has been a very nervous man, and he has not had any special worries.

*April 1st, 1896.*—For the past two months this patient has been very much better, and, as he tells me, has almost recovered from his attacks.

*June 1st.*—He has not had an attack for nearly four months.

And lastly, in addition to the purely hysterical and vasomotor forms, there are cases in which the angina appears to be excited reflexly, either from peripheral or visceral irritation. You will find an interesting chapter in Huchard devoted to these reflex pseudo-anginas, and he has collected a number of cases from the literature. There are instances of anginous attacks following a cervico-brachial neuralgia, of either traumatic or spontaneous origin. You remember in the histories of the cases of true angina how insistent many patients were as to the influence of diet. There is also a so-called gastro-intestinal form of pseudo-angina, in which attacks follow indigestion. The following is the only instance in my list in which the visceral irritation appeared to induce the paroxysms, or, to speak more correctly, in which the two conditions were associated:

*CASE XII.*—Miss A., aged twenty-two years, seen April 4, 1893, complaining of severe attacks of pain in the region of the heart.

She belongs to a nervous family, and she has never been very strong. She denies having had hysteria. Several times, as a child, she had slight rheumatism, and three years ago she was laid up with a more acute attack. Several members of her family have also had it. For years she has been subject to dyspepsia, particularly after eating too many sweet things. For a year or more she has had occasional attacks of pain in the chest, coming on particularly when she has indigestion. The pains are neuralgic in character, chiefly about the lower part of the chest, yet sometimes, to use her own expression, "they fly all over her." Lately she has been much alarmed by the occurrence of two attacks of great severity, the first about two months ago and the second a month ago. There was agonizing pain in the region of the heart with shortness of breath. Both were severe enough to require hypodermic injections of morphine. The pain, so far as she could localize it, was in the left side, in the region of the heart, not in the abdomen. On both occasions, though the severity of the pain was only, as she said, *for an hour or so*, yet for two or three days after she had more or less pain and distress. On both occasions she had dyspepsia, but she had not been specially nervous or run down. She does not know whether she got pale during the attacks, but she sweated after them. She takes a great deal of exercise, but has never had an attack brought on by exertion.

She looked a nervous girl and flushed easily. The examination was negative, with the exception of slight dilatation of the stomach.

*The Buffalo Academy of Medicine.*—At the last meeting of the Section in Obstetrics and Gynecology, on Tuesday, the 24th ult., the special order for the evening was the subject of Post-partum Hemorrhage, the aetiology, pathology, and diagnosis being discussed by Dr. P. W. Van Peyna and the treatment by Dr. R. L. Banta.

## Original Communications.

A CASE OF  
UNUSUAL LARYNGEAL GROWTH.\*

By J. W. GLEITSMANN, M. D.

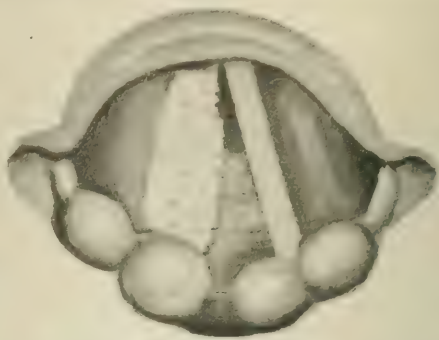
ALTHOUGH the history of the patient is incomplete, and unforeseen circumstances prevented the treatment from being carried out to a satisfactory issue, the case is briefly related here on account of the peculiar aspect and nature of the growth which had developed in the larynx.

The patient was shown once this winter in the Laryngological Section of the New York Academy of Medicine, and examined by a large number of its members; but none—at least to my knowledge—ventured to make a positive diagnosis, as the appearance of the growth was so very different from anything which is usually seen in the larynx. Soon afterward, on February 7, 1896, I was agreeably surprised when I saw the patient enter my class room in the German Dispensary—probably because I had previously treated his father-in-law successfully—and I concluded at once to use all possible means to determine the nature of the growth and to relieve the patient.

The patient, a Russian Jew, thirty-three years of age, of small stature but normal build, living in the suburbs of Brooklyn, gave no history of previous disease. Hoarseness set in about a year ago, but otherwise he offered no complaint. He had not lost flesh, had no pain in his throat, no cough, no dyspnoea, and attended regularly to his business—viz., soliciting work on the street in the downtown district as watchmaker. Considering his position in life, he seemed to be of rather bright intellect and quick perception; he was very appreciative of any little attention shown to him, and was a very obedient patient. His hoarseness was permanent, although not of very aggravated character; and the state of his voice remained the same during the whole time of observation and treatment.

The outer inspection gave negative results. The larynx and its surroundings felt normal to the touch; no enlarged cervical glands could be detected. The pharynx appeared healthy, and the larynx presented the following features: The epiglottitis standing almost erect, which position greatly facilitated later operative procedures, a large, almost snow-white mass could at once be seen when the mirror was placed in proper position. At the demonstration at the New York Academy it could not be definitely ascertained if what was seen was a tumor or ulcerated tissue with deposit of secretion on its surface, as no probe was introduced. Exploration with the sound, made now, at once proved the mass to be a tumor without any secreting surface, extending horizontally the entire diameter of the larynx from the anterior commissure to the arytenoid cartilage. It was confined to the right side, and appeared to be located between the false and true cord, although of the latter nothing could be seen at this period. If I may be allowed

to use an unscientific expression, the impression I had at the first and at subsequent examinations was that the growth looked very much like a bunch of cotton which had been inserted all along the ventricle of Morgagni. The whiteness of the growth was homogeneous in its entire length, its surface very little corrugated, its free border slightly irregular.



The other parts of the larynx presented no anomalies worth mentioning. The right ventricular band seemed a little narrower and slightly hyperæmic. The right arytenoid cartilage was not enlarged. The movement of the right side of the larynx, upon which point special attention was bestowed, was very little, if any, impaired, and adduction of the cords seemed to be perfect.

As it was deemed inopportune to treat the patient at the dispensary, he was directed to my office, and about a week later the first attempt of excising a part of the growth was made. It was not intended at the time to remove the whole tumor, but only to obtain a sufficiently large piece for microscopical examination. The operation was done with Landgraf's double curette, devised for excision of the ventricular bands; and, although the tumor was denser than expected, it was not as hard to dissect as we often experience in tuberculous infiltrations. The bleeding was slight, but for an hour the expectoration was tinged with streaks of blood. There was no unpleasant reaction; the after-treatment consisted of paintings with weak solutions of lactic acid, and later of mild astringents and applications of sprays and iodol. Unfortunately, the piece removed proved to be cut not deeply enough to show the real structure of the tumor by the microscope, and on February 27th a second and larger piece was cut out, as deep as the curette would allow me to do. The second operation affected the patient more than the first one, which I attributed partly to the after-effect of cocaine and partly to nervous excitement. The bleeding was not any more than formerly, and, after resting some time, the patient went away alone, promising to return the next day to be demonstrated at a medical meeting.

This visit was the last I saw of the patient at my office, and, when he did not appear within the two following weeks, I concluded to call on him at his house, in which I finally succeeded, after traveling three quarters of an hour in a trolley car and walking twenty minutes more through unpaved streets and on filthy sidewalks.

I found him perfectly rational. He received me very kindly, and stated, as the reason for his absence, that he had felt very weak during the first few days after the operation, and that later one of his children had been

\* Read before the American Laryngological Association at its eighteenth annual congress.

taken sick. He seemed slightly debilitated, but his voice was a little stronger; all his other functions were normal. When examining his larynx, I saw for the first time a part of the true cord on the right side. Although an inspection had been made immediately after the second operation, nothing could be seen of the lower part of the larynx, as the blood oozing from the wound obscured the view. Up to that time I was also not sure if the vocal cord had not become violated by the operation, or if the cord was perhaps not involved in the tumor itself—a point which, of course, was later on decided by the microscopic investigation. At the examination the tumor was seen to have decreased about a quarter its size, which decrease was naturally most visible at its median portion, where excision had taken place. A part of the vocal cord could be seen through the opening, which was slightly hyperæmic, but seemed not to be changed in its contour. The remaining larger portion of the tumor presented the same appearance as before.

The patient promised again to call in a few days, but, after I had waited in vain three weeks, I determined to visit him a second time, as the case was too interesting for me to let it go by default. My reception this time was very different. The patient, surrounded by a large number of friends, received me with a sullen face; told me there was no need of my coming, as he had not sent for me, and when desirous of my services, would call at my office. He spoke in a rambling, incoherent, unintelligible manner, and I learned, after much parleying, from a relative that the loss of his child, followed by the death of his father-in-law, had upset his mind, and that only the day previous he had been forcibly removed from the tracks of the railroad near by, where he was attempting to commit suicide in this manner. He did not allow me to examine his larynx, and without accomplishing anything I was compelled to leave.

As I was convinced after this experience that further attempts would be equally fruitless, I felt obliged, to my great regret, to relinquish the case. Our interest naturally centres in the character of the tumor. Both specimens were examined by Dr. Schwyzer, the pathologist of the German Hospital. Before reading his report concerning the second piece removed, I beg to mention that allusions to whitish-looking tumors of the larynx are very scarce in literature. I have found no statement to this effect in the text-books in my possession. In his treatise on cancer of the larynx, 1889, B. Fraenkel says that it is an erroneous impression that in an early stage cancer of the vocal cords produces hyperæmia or inflammation. On the contrary, the carcinoma often presents a surprisingly white appearance. Further, Semon says, in a lecture on Benign Growths of the Larynx (*Clinical Journal*, February 20, 1895): "Unusual snow-white color or grasslike appearance of tumors points strongly to malignancy."

The report of the microscopist is as follows:

"The tumor may be defined as a papilloma durum laryngis. It is composed of proliferated papillary mucosa, covered by a thickened epithelial layer. The surface layer of epithelial cells presents itself as a horny covering; the underlying epithelial cells show marked proliferation with a splitting up of the nuclei. The submucosa shows a small-celled infiltration in conse-

quence of connective-tissue proliferation. The epithelial layer shows a tendency to invasion of the subepithelial tissues as in carcinoma.

"The glands at the margin of the new growth appear very much changed. The individual tubules or ducts should appear distinctly separate one from another, instead of which, and at certain points, the cylindrical epithelium appears to merge from one duct to another.

"This condition also gives rise to a strong suspicion of malignancy, and justifies the following diagnosis:

"Papilloma durum, probably malignum, and perhaps carcinomatosum."

I have nothing to add to this report, but am inclined to believe that, if either the whole tumor could have been removed, or the excision had been made from a still deeper layer, a malignant character of the tumor would have been more firmly established.

#### SOME OF THE UNUSUAL MANIFESTATIONS OF SO-CALLED "CATARRHAL LARYNGITIS."\*

By CLARENCE C. RICE, M. D.

SUCH a constant relation is nearly always found to exist between congestion of the larynx and catarrhal disturbances of the respiratory tract above, that when we find pathological lesions in the larynx, apparently independent of nasal or pharyngeal disease, we note the exceptional condition at once. Catarrhal laryngitis not dependent upon, or not secondary to, some primary changes in the nose and pharynx is rarely seen. Given a certain amount of nasal obstruction, congestion, and hypertrophy, we always expect to find, as a result, the same kind, but a lesser degree of catarrhal disturbance in the pharynx, and still less in the larynx and trachea. But there are exceptions to this very general rule. We know there are pathological conditions of the pharynx caused by cardiac, gastric, or hepatic diseases, which bear but slight relation to nasal disturbance. Rheumatic and gouty pharyngitis exist, unaccompanied by any nasal disorder. Disease commencing in the faucial tonsils may also produce a general pharyngitis, the nasal passages remaining comparatively healthy. But these conditions are not frequent, and the rule holds good that nasal, pharyngeal, and laryngeal disorders are almost always combined.

There are not many constitutional conditions which select the larynx alone as their point of attack. Laryngeal tuberculosis is nearly always secondary to pulmonary disease. The larynx is but one of the many parts attacked by syphilis. We are not interested here in the various forms of laryngeal paralysis, or of the new growths which are found in the larynx. I wish to call attention to certain local or general congestions of the larynx which are not secondary in any great sense to diseases of the nose or pharynx. While it is possible that we

\* Read before the American Laryngological Association at its eighteenth annual congress.



must look for their causation in the patient's slight predisposition to catarrhal disease of the upper respiratory tract, we shall find, as a much greater cause of the disturbance, some error in the performance of the physiological functions of the muscular apparatus which produces the speaking and singing voice.

These various localized congestions should not be recognized under the name of catarrhal laryngitis, because this term should always be held to mean a general catarrhal disturbance from the nasal passages down.

We are, I say, in the habit of thinking and teaching that a laryngeal catarrh bears the closest sort of relation to nasal disorders. But the exceptions to this rule are found in that class of patients who use their voices in other ways than in ordinary conversation—singers, clergymen, public speakers, and actors. In people of these professions we find laryngeal disorders as indicated by congestion, swelling, and muscular relaxation, but the peculiarity is that the degree of disturbance is out of all proportion to the amount of nasal and pharyngeal trouble.

Before I mention the unusual conditions observed, allow me just a word in regard to the usual forms of laryngeal disturbance. In the most ordinary variety of nasal disorder caused by obstructions arising from the nasal septum, and producing catarrhal congestion and hypersecretion, we rarely find more than congestion of the larynx, confined, for the most part, to the sides and to the epiglottis, the vocal bands not being much affected. This slight congestion affects the speaking voice very little, but the untrained singer would be troubled with hoarseness. But it is a condition which does not prevent those who breathe properly and use their voices correctly from continuing with their work. No surer way of benefiting this simple laryngeal congestion can be found than by putting the nasal passages in good order.

We have a much more difficult task in curing that laryngeal disease which is secondary to atrophic rhinitis and a dry pharynx. We know how common it is to find extreme huskiness or total loss of voice in laryngitis sicca. The congestion is so extreme and the thickening so great, it requires long treatment to restore the tissues to their normal condition.

The laryngeal congestion, therefore, which follows nasal obstruction, and the dry, parched, congested, thickened, laryngeal mucous surface which is secondary to an atrophic rhinitis, represent the two usual types of catarrhal laryngitis seen at all times in all people. The changes in the larynx may proceed to permanent tissue thickening, or even to ulceration.

In regard to the etiology of the rarer forms of catarrhal changes in the larynx, I should say that aside from the predisposition to catarrhal trouble of the upper respiratory tract, which everybody is more or less influenced by, in the cases which I have observed the exciting cause has seemed nearly always to be related to an unusual use of the voice.

First, there is a troublesome type of cases, seen usually in men, and the three or four that I especially remember occurred in bass singers. There was no special nasal disturbance, but there was atrophy of the submucous structures of the middle and lower pharynx, without dryness. There was marked enlargement of the diameters of the middle pharynx, because the tonsils had disappeared and the pharyngeal pillars had shrunk wide apart. The same atrophic changes had taken place in the larynx. The epiglottis was exposed and large; the vocal bands were very long, and always inclined to congestion. There seems to be a special lack of muscular power, manifested by the internal muscles of the larynx, by the thyreo-arytænoids, and the transverse arytenoid muscles. In some of these cases there is evidently atrophy of the muscular tissues; and it is exceedingly difficult to keep people suffering from a general atrophy of the pharynx and larynx in good voice, so much is the proper relation of parts disturbed.

Perhaps there is no more troublesome local laryngeal disorder, whether it causes vocal disability in the singer or a tickling cough in the non-professional, than the permanently enlarged epiglottis, an epiglottis which is too high and too wide, and which is always congested. In many of these cases congestion is confined to the epiglottis alone, and the nose and pharynx are in excellent condition. It is likely that the friction of the epiglottis against the base of the tongue and sides of the pharynx is a source of irritation, and that the increased size of the epiglottis also exposes it to unusual sources of congestion. The disagreeable symptoms attending this condition seem to be entirely due to the abnormal size of the epiglottis, since there are no other laryngeal lesions apparent. The irritability of the epiglottis produces reflex congestion of the entire larynx. Spasmodic closure of the vocal bands is common, and any extraordinary use of the voice causes a tickling and hoarseness which render singing and public speaking impossible unless the voice is very carefully produced. I do not remember to have seen this condition of enlargement of the epiglottis most frequently in singers, so that it does not seem to be produced by an overuse or bad method of singing or talking. Congenital factors may be at fault. Once enlarged and exposed, congestion easily takes place, and constant tissue-thickening goes on. I have seen irritative congestion of the epiglottis remaining in an obstinate way when the nose and pharynx were as nearly normal as possible. Enlargement of the lingual tonsil and disordered relation between it and the epiglottis must, of course, not be forgotten as a cause capable of producing enlargement of the epiglottis.

I only wish to mention, as we pass, the enlargement of the ventricular bands in the condition known as "choked voice." It is difficult to say whether this enlargement of ligamentous structure represents Nature's efforts to supply vibrating tissue in place of disabled true cords, or whether the enlargement of the "false

cords" has been entirely produced by faulty muscular action, such as forcing the sides of the thyroid cartilages together by a too forcible adduction of the bands. In the cases observed, the vocal bands always show a great lack of tension and sustaining power. When a sound is produced the bands come together, but immediately fall apart, as if from sheer muscular weakness, and their place is supplied by the approximation of the ventricular bands. I have only seen this condition in second-rate singers. Overforcing the voice may be put down as its cause. The prognosis in these cases is bad, because actual hypertrophy of the ventricular bands has oftentimes taken place, and they may be seen as shelves, standing well into the calibre of the glottis. It will require the most careful voice production, with painstaking attention to breathing, to give the true cords proper exercise, and to discontinue the use of the muscles which force the false bands inward. I have seen another condition which may not be similar in causation, but which appears somewhat like the "choked voice." This was in a soprano, who breathes and sings in a wretched manner, but who has a strong, pleasing voice. The entire sides of the larynx above the vocal bands stood inward so far that they almost obliterated the width of the true cords. In phonation, the width of the cords seen was hardly more than a line. This patient gets out of voice constantly with every attempt at prolonged singing. The tremendous overuse of the laryngeal muscles not only squeezes inward the sides of the larynx, but keeps the bands congested.

I have seen another interesting condition in two patients, both singers, one of whom is a tenor of a good deal of reputation, who sings all the time, and who is always in good voice. This disturbance might be termed a "congenital vascularity" of the vocal bands. I use the word "congenital" because I have known one of these patients for fifteen years, and both of his vocal bands were just as red when I first saw him as they are now. The congestion in his case does not in any way interfere with the production of tone. This patient had at first a moderate amount of nasal obstruction which was long ago attended to, and also pharyngeal catarrh. I do not think I have ever seen any variation in the color of his vocal bands. He himself does not know but that his cords are white, as I have thought it would discourage him if he knew that his vocal apparatus was different from that of other singers. It is possible, of course, that the enlargement of the blood-vessels of his vocal cords took place before I knew him, as the result of catarrhal changes, but I should rather be inclined to believe that the vascularity, if not congenital, appeared during the first years of his attempting to use his voice in singing. He is a very faithful German, an earnest worker, and he went through a good many mental and muscular struggles in the first years of his professional work. I have seen his larynx recently, and observed that the remaining portions of it were free from congestion. I wonder

if any member of this association treated him during this winter. He caught cold on his trip, and somebody treated his larynx, endeavoring, I believe, to remove the congestion of the vocal bands. The second case of this kind was in a soprano, not specially accomplished vocally. I have seen her from time to time for ten years, and the vocal bands have always been congested. She has very little general catarrh, and her voice, what there is of it, always remains the same. In these cases congestion seems to be the only pathological change, as we could not expect good voice if tissue-thickening or muscular weakness were present. We would not suppose it possible that either of these people could sing at all if they did not use their voices in the most perfect physiological manner. In these cases no blood-vessels can be detected, but the bands are uniformly and solidly red.

Of course the ability to produce a good singing voice under these conditions is not so remarkable as to be able to sing in a church choir acceptably with a paralyzed left vocal cord. I have seen such a case in a contralto.

Another interesting but rather slight disturbance in the larynx I have seen, perhaps always in persons using their voices in singing or public speaking, is a localized congestion of some part of the larynx, not catarrhal, reflected downward from above, but congested mucous and underlying muscular tissue, evidently caused by the overuse of some particular group of muscles. I have observed this congestion most frequently involving the arytenoid cartilages, the remainder of the larynx being normal. This condition of the arytenoids does not resemble the bluish, oedematous appearance seen in tuberculosis, but is a healthy reddish congestion, evidently caused by overaction of the transverse arytenoides muscles which force together too strongly one cartilage against the other. I have seen catarrhal inflammations involving only the arytenoid cartilages, which was an extension of a similar process from the posterior wall of the lower pharynx, in cases of pharyngitis sicca. But the difference in the two conditions was plainly observable; in one case the mucous surfaces were dry, in the other moist; in one the lower pharynx was affected, in the other normal. It is interesting to note how little benefit can be obtained from astringent sprays in removing the congestion of the arytenoids so long as the patient is singing, and how quickly it disappears when the patient is not using the voice, or has been taught to avoid the production of any impulse in the larynx in making tone.

The condition known as "chorditis tuberosa," or "singer's nodes," is also a local affection of the vocal bands, not necessarily secondary to any general catarrh, always produced by an overuse of the voice. I have seen this condition produced by a three-days' use of the voice. On Monday, for example, the vocal bands and the entire larynx were perfectly normal, and on Thursday the cords were slightly injected, and the pearly nodules had commenced to make their appearance. This was, however,

in a patient who had had the same difficulty before. She was so well acquainted with the condition, and knew how to avoid it so well, that, although obliged to sing every evening, she used her voice so carefully that without any special local treatment this epithelial thickening was almost entirely gone in two days. These nodular enlargements, so soon as the voice is produced without muscular contraction about the larynx, show a tendency to be drawn upward from the free edges of the cords to the upper surfaces. So much has been read before this association in regard to this condition that we need not speak of it longer, but I am perfectly convinced that it is a condition peculiar to singers, and that local applications are useless so long as the voice is being badly used; but that it disappears rapidly by proper diaphragmatic breathing, and by placing the expiratory impulse necessary to tone production in the forward part of the face and mouth, or well up behind the nose and away from the larynx.

I need not speak in this paper of the rather indefinite condition of the vocal apparatus known as "voice fatigue," characterized by the disability of some one or more of the intrinsic muscles. These cases are common enough. Occasionally we see a patient whose muscular action has become so disordered that apparently an abnormal compensatory muscular action is attempted by the larynx to supply the loss of the feeble muscles. Such patients have a constant hoarseness in their speaking voice, but are able to produce certain low notes in the scale fairly well. The larynx is examined to ascertain the cause of the hoarseness in speaking, and no lesion is discovered, but, when phonation is attempted in any of the vowels, the epiglottis and larynx, instead of being raised, dip downward, and the whole larynx is pulled backward. The antero-posterior diameter of the glottic cavity is shortened, and consequently vocal tension is impossible and the tone is husky. Whether this is a misapplied attempt toward compensatory action for fatigued muscles it is difficult to say.

There may be other peculiar localized disturbances of the larynx which have not been mentioned. I recall no others at present. In saying that most of these are peculiar to singers and speakers, we define their etiology—overuse of the voice, and usually an improper use of it.

Some of the pathological conditions described here are in no sense manifestations of "catarrhal laryngitis," for this term should only be used to designate those inflammations of the laryngeal mucous membrane which can be easily seen to be secondary to and dependent upon similar changes which have taken place in the nose and pharynx.

The facts which I have endeavored to state in this short paper are these:

First, that there are two ordinary types of catarrhal laryngitis, the one following and dependent upon nasal obstruction, or the condition known as "hypertrophic

rhinitis," and the other a laryngitis sicca, which is an extension downward of an atrophic rhinitis and a dry pharyngitis; and that in these two processes the same pathological condition exists, from the commencement of the nose to the bronchial tubes.

Second, that we occasionally see laryngeal disturbances which from their appearance might belong to one of these two ordinary types, but the significant point is that they are present when the nose and pharynx are in excellent condition; or, still again, that the laryngeal disorder, although in kind like that of the nose, is in degree much greater, which is the reverse of the usual condition.

Third, that there are several disturbances of the larynx, commonly classified under the general term of "catarrhal laryngitis," which seem to bear little or no relation to a previously existing nasal or pharyngeal disease, and, as they are observed commonly in singers or public speakers, they are undoubtedly caused by an overuse of the voice and an improper method of breathing and tone production, since they are greatly improved by proper instruction in breathing and singing.

I wish to emphasize the fact that these laryngeal disturbances can not be much benefited by local medication to the larynx so long as the vocal apparatus is improperly used.

Fourth, I have mentioned the following varieties of unusual laryngeal disturbance:

(a) A general tissue atrophy of the soft parts of the pharynx and larynx, which produces a disordered relation and a general muscular weakness of the larynx.

(b) The permanently enlarged and usually congested epiglottis, the larynx, as a whole, being nearly normal.

(c) The "choked voice," caused by actual enlargement of the ventricular bands (the "false vocal cords").

(d) A permanent and perhaps congenital vascularity of the vocal bands.

(e) A localized congestion of some portion of the larynx, probably indicating an overuse of some one of the muscular groups—the transverse arytenoids being the most commonly affected.

(f) The condition known as "singer's nodes," produced by an incorrect method of using the voice, and cured by breathing and singing in a true physiological manner. And.

(g) We see in singers the many appearances of muscular fatigue which are associated with hoarseness and loss of voice; and frequently we observe strange and strenuous efforts on the part of the larynx to supply extraordinary compensatory muscular action for the loss of the disabled muscles.

Fifth, these various laryngeal disorders should be recognized by proper names, and their etiology appreciated, and they should not be confused with the ordinary phenomena of a simple catarrhal laryngitis. And.

Sixth, little dependence can be placed upon local medication of the larynx in these difficulties, unless par-



ticular attention is being paid to instruction in proper methods of breathing and voice production.

## WHY WE SHOULD OPERATE EARLY IN APPENDICITIS.

By JAMES C. KENNEDY, M.D.,

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WITH many physicians at the present day observations and clinical history seem to argue *pro* and *con* as to when a patient should be submitted to operation, thereby proving their inability to solve the problem.

With a limited experience of cases treated on the expectant plan, and a large experience in operative cases, both in hospital and private practice, I have encountered many varieties of the disease, both in its symptoms and pathology; among others, that rarer pathological condition which is frequently fatal even when combated by the most skillful surgery. I have reference to a diseased appendix, filled with pus, with no plastic adhesions thrown about it whereby the general peritoneal cavity would be protected.

In the early operative history of this disease, as did many of my professional brothers, I struggled amid the troubled billows of distrust, anxiety, and doubt, but I felt that a closer observation of my own cases, as well as a study of the cases of other men, would eventually bring me to a guiding principle which would direct me in the treatment of cases coming under my care in the future. As a result of these labors I find myself clinging to the teachings of the more radical surgeons, like McBurney, Morris, and others. Hence the following rule: With an empty intestinal tract, localized pain in the right iliac fossa at the McBurney point, the symptoms persisting and increasing for twelve hours, the diagnosis confirmed by exclusion—operate. In doubtful cases—symptoms lasting and increasing longer than twelve or sixteen hours—explore, inspect, remove diseased appendix if found. Men who have experience in operative work in this disease will here call to mind exceptions to this rule, such as extreme obesity, complications of other disease, as valvular disease of the heart, nephritis (acute and chronic).

It may be of some interest to those who would hesitate to have their patients operated on early that I should relate a few cases which I have treated by both methods—surgically and by the expectant plan. Neither in St. Catherine's nor St. Mary's Hospital have any cases, to my knowledge, been treated on the expectant plan, for the reason that all were decidedly operative; but in private practice I have sometimes (in the past) of necessity and sometimes voluntarily treated cases on a strictly expectant or medical plan, some successfully (for the present, at least) and some with the most disastrous effect.

While the patients did not all recover in the opera-

tive cases, still I, as well as every one present at the operation, thought that the best chance had been given.

**CASE I. Expectant Plan.**—Thomas C., aged twenty-two years, native of this country, theological student.

June 11, 1892.—Complained of pain in the abdomen; bowels constipated. On examination, I found pain diffused over the abdomen, more in left inguinal region; no pain in right iliac fossa over McBurney's point. Temperature, 100°; pulse good. Diagnosis somewhat difficult, but obscure appendicitis kept in mind. Gave castor oil with laudanum, with instruction if the oil did not move the bowels to give a solution of citrate of magnesia.

12th.—No evacuation of the bowels. Magnesia had not been given through mistake; still had slight pain.

13th.—Bowels moved; temperature, 99°; pains very much diminished.

14th.—Felt good, wanted to go down stairs; temperature, 100°; pulse, 94; had not slept much. He was warned to keep as quiet as possible, and under no circumstance to leave his bed.

16th.—After a somewhat restless night he left his bed and began to pace the floor as a sentinel would his beat, when suddenly he felt a pain as if some one had driven a knife into his right inguinal region. His piercing shrieks brought his friends to his side, who found him leaning against the wall with both hands firmly pressed against the McBurney point. He was carefully removed to his couch, when his ghastly countenance told that something was very wrong. I was hastily summoned and arrived at 5 A. M., and found him suffering from severe shock. Temperature, 96°; pulse, 148; skin cold and clammy; with great abdominal pain, severest in right inguinal region; mind clear; pinched and haggard countenance. Hypodermics of digitalis, atropine, and brandy were given, with warmth to the extremities.

Noon, same date, pulse 132; temperature, 95°; condition generally unchanged.

Two P. M., same date, condition about the same; 10 P. M., condition unchanged, except that temperature had gone down to 93°; pulse had gone up to 148.

16th.—At 5.30 A. M patient died.

This case is instructive inasmuch as it shows not only the difficulty sometimes experienced in diagnosis, but the great danger of the expectant plan of treatment.

**CASE II. Treated on the Expectant Plan.**—Looking over my notes, I find recorded there the following case: N. G., aged nineteen years, native of this country; previous health good.

July 16, 1894, 1 P. M.—Took severe pain on right side of abdomen low down; 6 P. M., same date, I saw him. Pain right over the region of the appendix and nowhere else; temperature, 100.4°; pulse, 96. Diagnosis: acute appendicitis; ordered light flaxseed poultice, with salines every two hours until bowels moved.

17th.—Evacuation from bowels; pain almost gone. Temperature, 99.2°; pulse, good.

18th.—No pain, but some tenderness on deep pressure over the appendix. Temperature, normal; pulse, normal. Advised that patient keep quiet until this tenderness on deep pressure entirely disappeared; should it return, however, I should be informed.

In a few days he reported entire absence of tenderness on the deepest pressure. In this case I did not pro-

pose operation for the reason that all the symptoms rapidly subsided within the twelve hours instead of either increasing or remaining stationary. This patient has been under observation since July, 1894, and I am positive he has had no recurrent attack.

No sane surgeon would operate in such a case as this if we had any means of vouching for the result which took place. But for the one case that terminates in this way, fifty will recur, and some of the recurrences may prove fatal. That this was not a case of mistaken diagnosis I have but to say that I used here, as in Case I, the skill in diagnosis at my disposal, the same which I used in a very large number of cases where diseased appendices were removed.

To tabulate or give in detail the many cases of appendicitis that have occurred in my service in two hospitals and in private practice would be a repetition of what has been written many times before; nevertheless, they would speak loudly for early operation.

**CASE III. Late Operation.**—John H. F., aged twenty-eight years, German; sent into my service at St. Mary's Hospital on January 31, 1896, with the following history and symptoms: sick for one week; on admission, temperature subnormal; pulse small, thready, and frequent; abdomen distended; abdominal muscles rigid and cedematous. Diagnosis: appendicitis with perforation. Oxygen and ether were administered as an anæsthetic; after a cautious preparation a rapid opening was made into the peritoneal cavity at the McBurney point, which was found filled with foul-smelling pus; a portion of a sloughed appendix, with a large concretion, found in the right iliac fossa; patient's condition bad; the abdominal cavity was flushed with warm Thiersch's solution. Perfect drainage was established, and the patient stimulated by every possible means. Notwithstanding all, he succumbed six hours later from sepsis.

Cases of this kind swell the mortality list in hospitals, and perhaps I voice the sentiment of hospital surgeons when I say that physicians do the operation a great injustice by sending patients to hospitals for operation in a moribund condition.

The surgeon of to-day must not only make a strong plea for early operation in appendicitis, but it is a moral obligation devolving upon him to use his influence in the consulting room to urge physicians to contrast with their patients the comparative safety of early removal of the appendix with the dangers of delay.

**CASE IV.**—Mr. F. H., East New York, German, aged twenty-seven years. Diagnosis of appendicitis made immediately by his attending physician, Dr. Myer; sent into my service at St. Catherine's Hospital June 24, 1896, and operated on at once; an incision an inch in length was made through the integument and aponeurosis of the external oblique. The muscles of the internal oblique and transversalis were separated in the direction of their fibres (McBurney). Passing through the transversalis fascia and peritoneum, an inflamed appendix, five inches in length, was at once encountered lying along the inner side border of the cæcum. The mesocæcum was necessarily long. The left index finger, the one usually used for purposes of exploration, was gently

passed over the appendix and upon its mesocæcum low down on its attachment.

On the lower and opposite side to the index finger I passed the flat bone handle of a blunt hook, and by pressing these extremities together I procured a firm hold. Then, with a gentle rotary movement, the appendix and its attachments with the cæcum were drawn through the small opening. The meso-appendix was tied off with catgut, the appendix itself removed, its base inverted and pushed into the cæcum. The serous coverings of cæcum were stitched over it by means of Lembert's suture. The peritonæum and transversalis fascia were brought together with a continuous fine catgut suture. The separated muscular fibres of the internal oblique and transversalis were allowed to fall together, while the aponeurosis of the external oblique, together with the integument, was closed by means of a cross suture of silkworm gut. The patient had no bad symptoms whatever. The silkworm sutures were removed on the sixth day, union complete. He left his bed on the eighth day and the hospital on the tenth day, resuming his ordinary duties.

**CASE V.**—Miss K. O., aged seventeen, native; residence, Evergreen, Long Island; acute appendicitis.

**June 22, 1896.**—Twenty hours from the first symptom was sent into my service at St. Catherine's Hospital and operated upon immediately.

The method used in Case IV was followed, except that the incision was three quarters of an inch. An inflamed appendix with necrosed mucous lining and an incipient slough about its centre was removed.

Left her bed on the eighth day and the hospital on the tenth day, perfectly well.

**CASE VI.**—Miss H. S., aged twenty-five years, native; sent into my service at St. Catherine's Hospital, June 23d, by Dr. Gerri, soon after the diagnosis was made. Immediate operation; same method as in Cases IV and V; patient up in eight days; left the hospital on the tenth day.

The cases recorded here are but a few of the many that might be mentioned. It is left to the reader to draw his own conclusions as to whether they argue for early operation or not.

In conclusion, I would state that I look upon appendicitis as a septic disease from the start, and I believe that the removal of the appendix as soon as the diagnosis is made will place the patient where no harm can befall him or her.

If we wait, within the abdomen is fostered one of the most dangerous and destructive diseases that mark the surgical calendar.

I will raise but one point in the ætiology of the disease, and this has been forced upon me by observation in my own cases as well as the cases of others—namely, many cases of appendicitis have followed rapidly upon attacks of acute intestinal catarrh. It is true that sometimes in fatal cases of acute diarrhoea no lesion has been found, but it is remarked by the best authorities that the hyperæmic membrane pales after death, as does the skin in scarlatina and erysipelas. The presence or absence, therefore, of hyperæmia is no proof of the existence or non-existence of inflammation.

There is nearly always, however, more or less tur-

gescence, visible to the naked eye, present in the mucous and submucous tissues which have been the seat of catarrh, and this is nearly always found in the lower part of the ileum and the cæcum, the sigmoid flexure, as well as in other parts of the colon. This condition of hyperæmia is soon followed by acute œdema and increase in the cell elements, softening, and, in fine, all the requirements of a genuine inflammation. That this condition of the mucous lining of the ileum and cæcum, produced by an acute intestinal catarrh, should find its way to the mucous membrane of the appendix, thereby setting up an acute appendicitis, is not an unreasonable idea.

Thoroughness of technics, in surgical operations, now in vogue, prompted by bacteriological research, bordering upon perfection, renders early operation in appendicitis almost without danger. I am in accord with those who contend that appendicitis is a surgical disease and should be treated as such.

762 WILLOUGHBY AVENUE.

### THE OPERATION FOR DEVIATION OF THE NASAL SÆPTUM.\*

By ARTHUR W. WATSON, M. D.,  
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It is said that the non-success of the treatment of a disease may be judged by the number and variety of the drugs recommended. If the same applies to surgery, surely, the number of methods that have been devised for correcting deviation of the nasal sæptum may be taken as an indication of the unsatisfactory nature of the results.

That the opinion of many writers agrees with this proposition is evident if we consult the latest works on the subject. Thus McBride says: "My experience has been that deviations of the sæptum are not a very satisfactory class of cases to treat"; Bosworth, after enumerating the various operations for straightening the sæptum, advises sawing off the projecting spurs and angles; Jarvis recommends removal of pieces of the deflected sæptum by the *écraseur*; Lennox Browne contents himself with producing perforations by the galvanocautery, and several writers recommend electrolysis (only another method of destroying tissue) in the treatment of deviations of the sæptum. Such methods do not correct the deviations and, it seems to me, are only an acknowledgment of failure.

The symptoms caused by a deviation of the sæptum are not confined to those arising from obstructed respiration. They include interference with drainage, obstruction of the outlets of the accessory sinuses, symptoms due to the abnormal size of the opposite nasal chamber, and that large class of affections caused by contact or pressure known as reflex. The relief of respira-

tion, therefore, is not all that is called for in these cases.

Of those operations that attempt the straightening of the sæptum, the most important are: Adams's, forcible breaking of the sæptum, followed by metal plugs or splints; Steele's, incisions by the stellate punch, followed by plugs; Roberts's multiple incisions by the knife, the fragments retained by pins; Ingals's, excision of a wedge-shaped piece and suture; and Roe's, crushing by special forceps, followed by anti-septic plugs. Allen's operation, in which the base of the sæptum is detached beneath the mucous membrane and the sæptum moved toward the open side and retained by a plug, does not aim at reducing the deviation, but simply equalizing its encroachment on the nasal chambers. By all these methods, with the exception of Ingals's and Allen's, the curved sæptum is forced into a straight line, for which it is obviously too large, and for that reason the results must be but temporary in the majority of cases where the deviation is at all marked.

What, then, are the requirements of an operation for the correction of a deviated sæptum in order that the result may be permanent? This may be considered in two parts: The operation proper, or the method of reducing the deviation, and the means for holding the parts in position until healing has taken place.

Many of the operations devised have been unsuccessful because they lose sight of the fact that a deviated sæptum is larger than a straight one, and make no provision for reducing the amount of tissue. The first step, therefore, is to reduce the sæptum to a size that will fit into a straight line between the points of attachment. This can be accomplished by excising a portion of tissue in the general line of deviation. If the deviation is horizontal, an elliptical piece is removed, the incisions gradually converging at either end. If the line of deviation is vertical, a triangular or wedge-shaped piece is cut out, the apex being upward and extending as high as possible, and the base reaching to near the base of the sæptum, where it may be joined by a horizontal incision. Both forms of deviation are frequently met in the same case and then both incisions are to be made. The excised portion should include the protruding angle. The amount of tissue to be removed can be estimated by the eye. A very important point in this part of the operation, in my estimation, is to avoid cutting the mucous membrane on the side opposite to the incision, a point first noted, I think, by Dr. Ricardo Botey, as the membrane helps to hold the edges in line and thus facilitates union and prevents perforations. The incisions should be made on the convex side of the sæptum.

To bring the bony portion into line the crushing forceps can be used to advantage, and as the fragments slide somewhat on each other it is unnecessary to remove any of this tissue. For this purpose Adams's crushing forceps is generally used, but I should think, although I have not tried it, that Dr. Roe's forceps would do better.

\* Read before the American Laryngological Association at its eighteenth annual congress.



The second part of the operation, the method of retaining the septum, is, I think, very important. I believe one reason for failure in this operation to be that the retaining force is not kept up long enough.

In dealing with the cartilage it is well to remember that it unites by fibrous tissue, and that if the resilient cartilage is allowed too soon to exert its force this tissue will stretch and the deformity be renewed. I have found by experience that from three to four weeks should be allowed for the healing of the cartilage. I have known the supports to be removed within a week and even sooner, sometimes plugs being introduced afterward at night, sometimes frequent finger pressure being resorted to to keep the septum in place, which only stretched the parts and increased the tendency to relapse.

With this point in view it will be seen that hard substances such as ivory, wooden, or metal plugs, and tubes are inappropriate, as by their constant pressure they will produce pain and ulceration. All plugs accumulate secretions which become irritating and offensive, and if removed for cleaning give pain in reintroduction. Splints and clamps have some of the same objections, besides being inefficient. They are also conspicuous, which, as they should be worn for weeks, is important. A pin (first suggested by Dr. J. B. Roberts, but not of the same shape or used in the same way) with a flat ring-



head, the ring covered by a piece of rubber tubing, I have found to be the best support for the cartilaginous septum. The pin is inserted from the concave side of the septum, just back of its anterior edge, and passed diagonally through to the other side, then across the vertical incision, if there is one, and then back into the septum until the head lies on the septum within the nostril. Care should be taken not to produce a deflection in the opposite direction. This method leaves both nostrils free for respiration and cleansing. I have found that if the head of the pin is padded as described, no ulceration takes place, and the pin can be worn for three or four weeks without discomfort.

As the pin supports the cartilaginous part only, the bony septum, when deviated, may require some other support. A piece of iodoform gauze, folded to as many thicknesses as is necessary and not more than a third of an inch wide and three quarters long, placed between the septum and outer wall at the point of deviation, will support the septum and give no inconvenience. The pad can be changed as often as necessary for cleanliness. As the bony portion unites more quickly than the cartilaginous, the pad can be dispensed with in a week or ten days, leaving the pin to do the rest.

In order to do this operation properly the parts must be well illuminated and as free from blood as possible. For this reason cocaine anæsthesia should be used in preference to ether.

In many cases, especially where the deviation is marked and low down, it is impossible to bring the lower fragment into line. The result is that there is nothing to meet the upper fragment and non-union results. To overcome this difficulty I have devised the following modification of the operation:

Instead of cutting out an elliptical piece along the horizontal line, I make an incision, which may be called a beveled incision. The edge of the knife is directed upward and toward the opposite side, and carried through the cartilage, but not the mucous membrane of the opposite side. The incision is made just on the crest of the deviation. Any vertical deviation is cut out as before described. The upper portion is then pressed over toward the other side, where it hooks itself on to the lower, and is thus held in place. This also uses up the redundant tissue. The projecting base can then (or after healing) be removed by the saw. This diagram will



Diagram showing, 1. Deviated septum with line of incision. 2. Septum re-placed, with spur standing. 3. Projecting spur removed.

perhaps convey a clearer idea of the method than my description.

I have used this method in a number of cases, and on subsequent examination, months after, have found the parts in good position, the only proof of success in these cases.

No. 126 SOUTH EIGHTEENTH STREET.

## ANIMAL THERAPY.

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If there is any one thing which contradistinguishes this age of therapy, it is the lessening of therapeutic agents by physiological methods of therapy, which have been shown to possess the power of

1. Antagonizing specific pathogenic germs.
2. Distributing to their ultimate destination nutritive material.

3. Stimulating the physiological functions by normal physiological influence.

Among the higher class of scientists the old principle of artificial antagonism to disease by means of vegetable and mineral drugs is rapidly passing away, although there are yet a few who are so committed to the philosophy of chemical therapy that they are loath to

yield the fact now established that the animal organism contains within itself the physiological principles of resistance to all forms of disease, and if it were possible to extract them in their normal environment, with their relations and effects unchanged, we should then come very near to the solution of that problem of therapy which has been, with its multiplicity of unknown quantities, the acknowledged enemy of medical science—the Cassandra of modern medicine.

The fact, now universally acknowledged by scientists without exception, and even known and recognized by the intelligent laity, that the millions of pathogenic germs entering into the organism at every breath would go on to the immediate destruction of the tissues of the body, is of itself an argument *a priori* in favor of the existence in the organism of cellular agents of resistance to pathogenic germs. The first actual demonstration of this fact was given to the world in the discovery of the cellular principle of nuclein, which physiologists found to be the result of the action of the blastema of the multinuclear leucocytes or white blood-corpuscles upon the proteids delivered to the blood from the digestive tract after all digestive action has been exhausted upon them. Now, then, we have the primal physiological act in the widely extended functions of nutrition and assimilation. The great principle of molecular affinity prevails in physiology with as much certainty, and the laws as invariable and unalterable, as the atomic affinity of chemistry. Physiologists, therefore, reasoning upon this principle, were not long in coming to the conclusion that the organism itself possessed its own powers of resistance to pathogenic germs, as well as its property of converting into tissue the prepared agents of nutrition.

Metchnikoff's theory of phagocytosis startled the profession into the conception of a higher therapy. The swallowing or incorporating of particles by certain of the body cells called phagocytes, is the rationale of this philosophy, which practical experience has proved true.

Having once established this fact, it was but a short step to the conclusion that the organism itself contained its own principles of resistance to the elements of pathology. To this end all scientific therapists began to direct their efforts. As a result, they found nuclein to be the agent of assimilation, as well as resistance to the advances of pathology. This being established, the next practical and most important question was presented—"Is it possible to extract this principle for therapeutic use?" In answer to this Dr. Vaughan, of Ann Arbor, brought to bear his skillful chemical methods, and from the yeast extracted what he states to be, and what other scientists have affirmed, the principle of nuclein itself.

Then came Dr. Aulde with his preparation of nuclein extracted by chemical methods from animal organisms.

When, however, it came to be considered that nuclein could not exist without its environment, that it

could not be extracted or preserved in its cellular activity without its normal envelope of tissue, protonuclein was produced, with the idea of retaining the environment necessary to the preservation of its functional activity, and without any effort to extract the nucleinic principle alone. By this method it was possible to reach pathological conditions unapproachable before. Protonuclein received its name from Professor Huxley's principle of protoplasm, which it represents both in structure and function. It will therefore be readily seen that the establishment of the fact that the principles of nutrition in the organism may be reinforced by those gathered from other animals in itself means a revolution of therapy. Once recognized as a principle of nutrition, assimilation, and antagonism to germs, it has no limit to its therapeutic application.

*Composition.*—It is almost impossible to obtain an exact formula for nuclein, which was first discovered by Miescher in the pus corpuscles and the yolk of the egg. Physiological chemists, however, have generally agreed upon the following:  $C_{20}H_{40}N_9P_3O_{22}$ . A fresh preparation is a colorless, amorphous body, soluble to a slight extent in water, no attempt being made to separate it from its immediate physiological surroundings. It has also been discovered by Professor Chittenden, Dr. Vissman, and others of the Polyclinic School in New York and the laboratories of St. Louis, that protonuclein contains a very appreciable portion of iodine in its environment as extracted. This, of course, would tend greatly to the increase of the absorbent and assimilative functions of protonuclein, bringing it very close to all of the ultimate constructive cells of the body, which is the normal therapeutic action of iodine.

This product, therefore, not only contains the nuclein, but also the nuclein-charged multinuclear leucocytes, which are the active agents of nutrition and assimilation, the vital units of the organism, and the normal resistants to toxic agents introduced into the body. In this way, the activity of the principle is preserved and made applicable to every condition of structure. The large proportion of phosphorus would of itself suggest its general restorative powers, which have been so signally demonstrated in its practical therapeutic application. It is, however, to the cellular activity of protonuclein that its therapeutic power is mainly due, and this contradistinguishes it from all nuclein preparations so called, which have been separated from their normal physiological environment, and can only be useful to the extent of furnishing nutrition to wasting parts provided their activity is preserved, which is scarcely possible without the normal environment, having no effect upon neoplasms or cachexias, which protonuclein attacks with vigor and success. All preparations of nuclein, if they are nuclein, must have the same formula, but it must be thoroughly impressed upon the mind of the medical practitioner that a chemical agent in isolation is not a physiological or pathological agent

in therapy. In many, indeed in most cases, the environment is just as important as the agent, and so far as nuclein is concerned it is all-important to bring into play all of the organic surroundings which render its principles of therapy active in the body. Without these it remains inert. It is just here that protonuclein as a therapeutic agent shows its power over other preparations which claim to possess the nuclein principle of therapy. No effort has been made to extract nuclein in an isolated chemical form, but, on the contrary, every effort has been made to preserve its normal physiological relations, so that it is in a state of immediate activity and assimilability, entering at once into the physiological process of the organism, unaltered in structure, unchanged in functional activity. The other forms of pure nuclein have to undergo a physiological training before they act therapeutically; in other words, they have to gather about them the very environment which is originally taken from the organism in the form of protonuclein. This explains the greater power of protonuclein, for the organism has nothing to do with preparing it for therapeutic action—it commences its normal function at once under normal physiological laws.

There are but few cautions to be observed in its use, being as it is a purely physiological agent, the excess of which in the organism would be quickly eliminated by the *prima viæ* if not utilized therapeutically. There is one exception to this law, however, which should be carefully noted. I refer to its use in carcinomata and sarcomata. As Virchow has shown, the development of a sarcomatous and carcinomatous tumor when first expressed in a part takes on the livery of the structure in which it is imbedded, so that until the whole organism has been infiltrated the physiological power is in excess of the pathological; but when this infiltration takes place all of the corpuscular elements of the body become pathologized as it were, growing even in nutritive channels under the pathological direction given to them. Now, in the first instance, protonuclein, it is evident, would stimulate the physiological action and thus resist the onslaught of the disease. In the latter case, however, the stimulus of growth imparted to the organism by protonuclein would in all likelihood increase the rapidity of pathological expression. In sarcomata the danger line is easily determined by the microscope, for the presence of giant cells in the blood would contraindicate the use of protonuclein. In carcinomata, however, the determination must be made upon general principles. The cachectic look of a patient, the marasmus or wasting, go to indicate the condition of contraindication to the use of protonuclein. In Bright's disease, it is often the case that the administration of protonuclein will temporarily increase the number of casts in the urine, but it must be remembered that Bright's disease is not in itself the disease, but the result of albuminous deposits in the kidney, resulting in ulceration. A moderate use of protonuclein, however, has in most in-

stances even controlled the ulceration. In no other instances can we conceive of protonuclein as contraindicated. To go into the detail of treatment in the various diseases in which it has been applied would transcend the scope of this paper. It is sufficient for the intelligent physician to know that almost all diseases which affect the organism come under the head of one or two pathological conditions—tissue waste or toxic action—and to these conditions protonuclein distinctively applies, as it is the normal tissue builder of the organism, and by virtue of the phagocytic power of its leucocytes it is the natural physiological resistant to all toxic agents:

*Modes of Administration and Effects.*—1. Protonuclein powder, for internal use, combined with milk sugar.

2. Protonuclein tablets, for internal use, combined with milk sugar.

3. Protonuclein, special powder, for local use, with insufflator and powder duster.

4. Protonuclein solution, for hypodermic use.

5. Protonuclein suppositories, for the uterus, urethra, rectum, nose, and ear.

6. Protonuclein ointment, for dermatological use.

These forms, as will readily be observed, are adapted to special characters of disease.

While the doses generally recommended cover the majority of cases, yet there are many organisms which require larger doses from the torpidity of absorption in their membranous structures. It is therefore best to increase the dose when results appear to be negative. I have yet to find a case that has not responded to its use, and it has been used in over nine hundred cases in hospital and private practice. Usually there is an increase of pulse and temperature for the first five to twenty hours. In cases of anæmia, chlorosis, malaria, and all chronic affections, the patient does not often feel for the first few days the peculiar thrilling effect of protonuclein, but the improvement both in feeling and outward appearance is very distinct and oftentimes rapid. The increase of pulse and temperature for the first twelve to twenty-four hours is due directly to the rapid leucocytosis induced. Of course, this subsides as soon as the leucocytes become distributed through the organism and deliver their nuclein to the remote parts of the body, where it is most particularly needed. On account of this rapid distribution, as would be expected, pulse and temperature subside.

Now with regard to the effects of protonuclein upon the pathogenic conditions of the body, it is clear that the range of its therapeutic action, if we grant the first functional power of tissue-building and of resistance to pathogenic germs, must be almost unlimited. Indeed, it has been tested so far in therapy that the results obtained have been with but few exceptions in perfect accord with the physiological principles upon which it is based. It is very clear from the clinical reports which have come in from every source, from Professor Chitten-



den's and Dr. Vissman's elaborate and thorough investigation of the cellular constituency and relationship of protonuclein, and from Metchnikoff's corroboration of them by experiments of his own, that it is the principle of leucocytosis, so active in protonuclein, which determines its therapeutic power. An agent capable of producing leucocytosis to the extent which all scientific investigators who have experimented with it declare, without exception, must be recognized as a most valuable addition to the *Pharmacopœia*. In the hands of the scientific practitioner, even without previous clinical corroboration, it can not but be an agent of infinite therapeutic application, and as its use becomes more general, and its distinctive effect in various diseases more definite, protonuclein will prove a ready and reliable therapeutic agent or adjuvant in most all pathological conditions.

The stimulant or, to speak more physiologically, the excitant effect of protonuclein really shows that its therapeutic power has been asserted. Such excitation is a positive proof of the fact that its cellular activity is expressed, upon which depends the curative effect. Leucocytosis in any part is generally accompanied by increase of temperature and pulse, and yet this natural result has caused some physicians to discontinue the use of the remedy; but I can state positively and with authority that it is a normal therapeutic effect. Though sometimes absent, such absence is due to other conditions which lower the temperature and pulse. The elevation of temperature and pulse, however, is but temporary. The balance of the organism is soon established, and the circulation settles down to the normal relationship to the conditions of the organism. In many diseases I have found, and my colleagues have corroborated this fact, that protonuclein comes very near to a specific remedial agent.

In typhoid fever, for instance, it does certainly control the pathognomonic symptoms belonging to this disease. Whatever theories may be brought forward to prove that typhoid fever is a self-limited disease, we are brought face to face with the fact that such a control has been obtained by the use of protonuclein. Protonuclein, during the first stages of typhoid fever, will, in every case, even the most asthenic, prevent the ulceration of Peyer's patches. It arrests directly the germinal activity of the disease, sustains the organism by direct physiological means, and throws about all the cell life of the organism a wall of resistance, while at the same time it furnishes the resources of recuperation and repair.

In ulcers I can positively assert, and I am sustained by the experience of those whose daily work is devoted to this class of patients, hundreds of them coming into the hospitals and dispensaries under previous conditions most unfavorable for treatment, that in such cases protonuclein invariably produces granulation in twenty-four hours, and the most inveterate cases have been dis-

charged within two weeks' time from the beginning of treatment. The records of the St. Louis Baptist Hospital, the Missouri Baptist Sanitarium, the City Hospital, the Dispensary of the College of Physicians and Surgeons, and the Missouri Pacific Railway Hospital can furnish positive evidence of the facts here stated.

In acute disorders due to germinal influences, such as coryza, erysipelas, gonorrhœa, and, in fact, all classes of acute specific diseases dependent upon zymosis, its antizymotic effect is immediately shown. At one of our outdoor dispensaries, where perhaps a larger number of patients are treated for these acute and especially eczematous disorders, nothing else is used; and especially in cases of gonorrhœa does the injection of protonuclein exhibit a most wonderful effect, destroying the gonococci within forty-eight hours without resort to other remedies. In phthisis, while of course we can not in this short length of time, since the introduction of protonuclein, state positively that it cures the disease, according to all appearances this fact is well established: it does arrest it, builds up the tissues, and will obliterate every evidence of the disease, destroying the pathological condition upon which it depends.

I append herewith what has been furnished us authoritatively as the principles which go to make up protonuclein, and its mode of manufacture succinctly stated. I do this for the reason that an impression has prevailed in the minds of some of the profession that protonuclein belongs to the class of secret or proprietary remedies, whereas it occupies the same relations to other nuclein preparations that Squibb's ether, chloroform, and other preparations bear to those of the ordinary market.

Protonuclein is prepared from the following glands. Take

- 100 pineal glands and pituitary bodies of the brain,
- 100 salivary glands,
- 100 thyroid glands,
- 100 pancreases,
- 100 inner linings of the stomach,
- 100 Brunner's glands and Lieberkühn's follicles,
- 100 thymus glands,

These are derived from the pig, with the exception of the brain, which is obtained from the ox. The methods and means to secure glands from healthy animals are carefully supervised by expert observers. All of the inert tissues are separated from the glands, after which they are passed through a disintegrating machine, and quickly dried by forcing warm air through them by a specially prepared machine, so rapidly that no change can possibly take place, for the vapor of benzoin is passed upward through the desiccator, enveloping the cellular elements and preserving them intact. They are then exhausted with ether, to remove any fatty matter, and again thoroughly dried by the same process, and the portion of the gland that is richest in nuclein, which consists of a little over one third of it, is then separated

from the whole mass by special machinery. It should be borne in mind that the portion of the gland containing the nuclein is very readily converted into a powder, and consequently is easily separated from the inert matter by sifting.

## JUVENILES WITH GONORRHEA.

By LUCIEN LOFTON, M.D.,

ASSISTANT TO THE CHAIR OF ANATOMY,  
AND ASSISTANT DEMONSTRATOR OF ANATOMY, SOUTHERN MEDICAL COLLEGE,  
ATLANTA, GA.

SEEING an article from the pen of Dr. E. S. Cox, of Galveston, regarding a case of gonorrhœa complicated by a double epididymitis, in a lad twelve years of age, recalls to my mind two cases that came to the venereal clinic of the Southern Medical College in December, 1895. One of the boys was four years of age, while the other one was nearly five. The mothers of these two youngsters, being colored people, were not very much alarmed over the condition of their respective hopefuls, and seemed to take the matter as a huge joke. One of the cases was complicated by a violent cystitis, while the other boy made a rapid recovery under the usual treatment. Just how these little "coons" fell heir to such an unusual legacy could not be ascertained. The mothers were examined, and found free from any gonorrheal taint, while inquiry was made regarding the fathers in this direction, but nothing definite could be learned. It was, however, pretty clearly established that the boys did not contract the disease through other than the regular source. The cases were not bastard gonorrhœa, for a microscopical examination was made of the discharge and Neisser's gonococci were plentiful. I consider these two patients among the youngest ever reported with gonorrhœa. The Georgia "coon" beats the world when it comes to venereal disease.

306 to 308 EQUITABLE BUILDING.

## Therapeutical Notes.

### The Treatment of Snake-bite by Calcium Chloride.—

The *Indian Lancet* for August 16th publishes the following abstract from the *Semaine médicale*: Phisalix and Bertrand reported the result of experiments with calcium chloride in cases of snake-bite at a recent meeting of the Académie des sciences. Its therapeutic action is not, as Calmette thought, due to the formation of some substance neutralizing the poison, or to its entering the circulation and there destroying the poison as it would in a test-tube, but it depends simply on its local effect; it destroys the poison locally, causes the tissue to slough, and so prevents absorption of the toxic material. Hence it is concluded that the injections of calcium chloride must be made deep at the actual spot where the fangs entered, and that they are useless if made in any other part.

## THE NEW YORK MEDICAL JOURNAL,

*A Weekly Review of Medicine.*

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FRANK P. FOSTER, M.D.

NEW YORK, SATURDAY, OCTOBER 3, 1896.

## THE JUBILEE OF ANÆSTHESIA.

CELEBRATIONS are good things, provided they are well ordered and come not too close together. To celebrate duly some cardinal anniversary of a great event in medicine can not but act as an added stimulus to further striving after other advances. The echoes of the celebration of the centennial of Jenner's beneficent discovery have not yet died away when we have close at hand that of Morton's no less blessed achievement. It is seldom that one particular day stands out as that on which a great medical event happened; usually it is only a year or perhaps a month that is recognized as the one in which a medical discovery or demonstration of great magnitude occurred, for such an event commonly has to undergo a gradual molding in the mind of the man who is chiefly instrumental in bringing it about. So it was, indeed, with Morton's arrival at conviction and confidence in the matter of surgical anæsthesia, but it was on a precise date, the 16th of October, 1846, that that conviction and that confidence were demonstrated to be well founded. On that day, in the operating-theatre of the old Massachusetts General Hospital, an institution that will always be historic on that very account, young Morton, dentist and medical student, made in the presence of the grave staff of surgeons and an expectant but mistrusting crowd of students an attempt which, had he failed, would have brought unbearable ridicule on him, however little it might have postponed his or some other man's success. Surely, his was no ordinary courage, no half-hearted confidence.

Commenting on the magnitude of Morton's discovery, our excellent contemporary the *Boston Medical and Surgical Journal* says editorially in its issue for September 24th: "The 'cruel' knife has become an undreaded and magical instrument of relief. And how far-reaching was this discovery of anæsthesia, how greatly has it extended the scope of surgery, minimized the pains of childbearing and the intensest sufferings in disease, and made humane vivisection and its vast consequent benefits to mankind a possibility! The name of Morton, in this connection, should be held in perpetual honor and gratitude, as one of the great benefactors of mankind." And so it will be the world over. Witness

what Sir Joseph Lister said in his recent presidential address before the British Association for the Advancement of Science (*British Medical Journal*, September 19, 1896): "This is the jubilee of anæsthesia in surgery. That priceless blessing to mankind came from America. It had, indeed, been foreshadowed in the first year of this century by Sir Humphry Davy. . . . But it was not till, on September 30, 1846, Dr. W. T. G. Morton, of Boston, after a series of experiments upon himself and the lower animals, extracted a tooth painlessly from a patient whom he had caused to inhale the vapor of sulphuric ether, that the idea was fully realized. He soon afterward publicly exhibited his method at the Massachusetts General Hospital, and after that event the great discovery spread rapidly over the civilized world." "The discovery of anæsthesia," says Sir Joseph, "inaugurated a new era in surgery. Not only was the pain of operations abolished, but the serious and sometimes mortal shock which they occasioned to the system was averted, while the patient was saved the terrible ordeal of preparing to endure them. . . . Anæsthesia in surgery has been from first to last a gift of science. Nitrous oxide, sulphuric ether, and chloroform are all artificial products of chemistry, their employment as anæsthetics was the result of scientific investigation, and their administration, far from being, like the giving of a dose of medicine, a matter of rule of thumb, imperatively demands the vigilant exercise of physiological and pathological knowledge."

It is fitting that the celebration of Morton's demonstration should take place on the very scene of his heroic exploit, according to a plan prepared by a committee of the trustees and medical staff of the hospital. Invited guests, we learn from our Boston contemporary, including the most distinguished surgeons of all countries and the benefactors of the hospital, will be received by the committee in the old amphitheatre, restored as far as possible to its condition at the time of the first operation under anæsthesia by Dr. John C. Warren. The public exercises will then be held in the new amphitheatre. They will include an address of welcome by the president of the hospital, Mr. Charles H. Dalton; papers entitled *Reminiscences of 1846*, by Dr. R. T. Davis, of Fall River, Massachusetts, and *Dr. Washington Ayer, of San Francisco; Surgery before Anæsthesia*, by Dr. John Ashhurst, Jr., of Philadelphia; *What Anæsthesia has Done for Surgery*, by Dr. David W. Cheever, of Boston; *The Relation of Anæsthesia and Obstetrics*, by Dr. John P. Reynolds, of Boston; *The Influence of Anæsthesia upon Medical Science*, by Dr. William H. Welch, of Baltimore; *The Surgery of the Future*, by Dr. Charles McBurney, of New York; and

*The Birth and Death of Pain* (a poem), by Dr. S. Weir Mitchell, of Philadelphia. The occasion will certainly be most interesting.

#### THE PLAGUE OF CITY NOISES.

THIS is the apt title of a very readable and forcible article, by Dr. John H. Girdner, of New York, published in the September number of the *North American Review*. Dr. Girdner takes the ground that noise is prejudicial to the continued health even of persons who are perfectly well, by interfering with their sleep; that in the case of those who are seriously ill it is sometimes sufficient to turn the scale against them; and that a considerable part of the noise of a great city is unnecessary and ought to be suppressed. He classifies city noises as follows: 1. Those produced by horses and wheeled vehicles. 2. Those emitted by peddlers, beggars, street musicians, and other persons—largely, we may add, whistling and yelling boys and midnight carousers. 3. Those caused by bells, whistles, clocks, etc. 4. Those proceeding from other animals than horses, such as cats, birds, etc. 5. Those that originate indoors, as from persons practising on musical instruments or training the voice. 6. Those given forth by explosives, mainly on the anniversary of the Declaration of Independence.

Dr. Girdner thinks that much might be accomplished by organized action in reducing the city noises, some of which, he properly admits, seem to be unavoidable; and he suggests that the most promising means of relief will probably be found in the formation of a society for the prevention of noise, on the plan of the Society for the Prevention of Cruelty to Animals and other like organizations. Much ought to be accomplished, it seems to us, through the agency of the board of health, for we take it for granted that that body has now a broader view of its powers and duties than it had a few years ago. The writer of this article knows of an instance in which a New York physician attempted, some fifteen years since, to induce a sanitary official to take some action to suppress the sounds of coarse and brutal revelry that nightly and nearly all night long poured forth from two bawdy houses situated in one of the most respectable neighborhoods. His effort was fruitless; he was told that, if he could prove that his health or that of some member of his household actually had been injured, some action might be taken, but nothing could be done in the way of prevention.

This particular form of nocturnal outrage has practically ceased in New York, but its cessation has been only an incident in the crusade against disorderly



houses, and not to any degree the outcome of a movement for the suppression of unnecessary noise.

We are glad to learn from the *Medical News* that the health commissioner of Milwaukee intends to stop unnecessary noises so far as he is able to do so, and we hope the New York board will not hesitate to make an attempt in the same direction.

## MINOR PARAGRAPHS.

### A CICERONE FOR THE MEXICAN MEETING.

DR. A. M. FERNANDEZ-YBARRA, of No. 235 Thompson Street, New York, has consented to accompany a number of physicians who intend to be present at the Mexico meeting of the Pan-American Medical Congress in November, and give them the benefit of his knowledge of the Spanish language. Gentlemen who would like to avail themselves of his services should communicate with him.

### A NEW TAPEWORM.

In the *Journal of the College of Science* of the Imperial University, of Tokyo, Professor Ijima, of Tokyo, and Professor Kurimoto, of Nagasaki, describe an enormous tapeworm which they modestly denominate *Bothriocephalus* sp. It measured ten metres in length and twenty-five millimetres in breadth at the broadest portion. Its expulsion was brought about with a dose of extract of male fern.

### THE SECOND SERIES OF THE INDEX-CATALOGUE.

THE first volume of the second series of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army*, has recently been issued. It takes the vocabulary from A to Azzurri. It opens with a reprint of the first addition to the alphabetical list of abbreviations of titles of medical periodicals, from volume xvi of the first series. The plan and general appearance of the volume are identical with those of its predecessors, but we miss the familiar official letter from Dr. Billings, and there is nothing to show who has been charged with the preparation of the volume. It is to be hoped that the issue of these volumes will be made perpetual. Their value can not be overrated.

## ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 29, 1896:

DISEASES.	Week ending Sept. 22.		Week ending Sept. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	49	6	29	6
Scarlet fever.....	26	3	50	3
Cerebro-spinal meningitis....	3	2	1	1
Measles.....	32	0	56	1
Diphtheria.....	135	11	142	26
Tuberculosis.....	181	116	155	106
Leptosy.....	1	0	0	0

**Changes of Address.**—Dr. Walter Lester Carr, to No. 68 West Fifty-first Street, New York; Dr. Egbert La

Fevre, to No. 52 West Fifty-sixth Street, New York; Dr. H. A. Powers, to No. 47 West Swan Street, Buffalo.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 20 to September 26, 1896:*

STRONG, NORTON, Captain and Assistant Surgeon, is relieved from duty at Fort Sheridan, Illinois, and ordered to Chicago, Illinois, for duty as Attending Surgeon and Examiner of Recruits in that city.

KULP, JOHN S., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Walla Walla, Washington, and ordered to Vancouver Barracks, Washington.

STEPHENSON, WILLIAM, Captain and Assistant Surgeon, is relieved from duty at Vancouver Barracks, Washington, and ordered to Fort Sheridan, Illinois.

A board of officers is appointed to meet at the Headquarters, Department of the Missouri, Chicago, Illinois, on Monday, October 5, 1896, at 10 o'clock, A. M., for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion.

### Detail for the Board.

HARTSUFF, ALBERT, Lieutenant Colonel and Deputy Surgeon General:

LIPPINCOTT, HENRY, Major and Surgeon;

STRONG, NORTON, Captain and Assistant Surgeon.

The following-named officers will report in person to the president of the examining board appointed to meet at Chicago, Illinois, on Monday, October 5, 1896, for examination for promotion:

FISHER, HENRY C., First Lieutenant and Assistant Surgeon.

SHAW, HENRY A., First Lieutenant and Assistant Surgeon; KIEFFER, CHARLES F., First Lieutenant and Assistant Surgeon.

LAUDERDALE, JOHN V., Major and Surgeon, will, upon the arrival of KOEFFER, EGON A., Major and Surgeon, at Fort Crook, Nebraska, repair to his home and await retirement.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending September 26, 1896:*

LUNG, G. A., Passed Assistant Surgeon. Detached from the Vermont and ordered to the Naval Hospital, Chelsea, Mass.

WILSON, H. D., Passed Assistant Surgeon. Detached from the Chelsea, Mass., Hospital, and ordered to the Bache, Barbier, G. H., Passed Assistant Surgeon. Ordered to the Naval Academy.

JOHNSON, M. K., Assistant Surgeon. Detached from the Bache and ordered to the New York.

COOK, F. C., Assistant Surgeon. Ordered to the Vermont.

### Society Meetings for the Coming Week:

MONDAY, October 5th: New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); New York Medicosurgical Society; Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; South Pittsburgh, Pa., Medical Society; Chicago Medical Society; Cleveland Medical Library Association; Monmouth, N. J., County Medical Society (Freehold).

TUESDAY, October 6th: New York Neurological Society; New York Obstetrical Society (private); Buffalo, N. Y., Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Broome (annual), Columbia (semi-annual)—Chatham, Orange (semi-annual)—Goshen, and Washington (semi-annual), N. Y.; Hudson, N. J., Jersey City, and Union (quarterly), N. J., County Medical Societies; Androscoquin,

Me., County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *October 7th*: New York Academy of Medicine (Section in Public Health); Harlem Medical Association of the City of New York; Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

THURSDAY, *October 8th*: New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *October 9th*: New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, N. Y. (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society; Medical Society of the Town of Saugerties (anniversary), N. Y.

SATURDAY, *October 10th*: Obstetrical Society of Boston (private); St. Louis Medical Society; Worcester, Mass., North District Medical Society (Worcester).

## Births, Marriages, and Deaths.

### Married.

KEELER—McCABE.—In Philadelphia, on Thursday, July 30th, Dr. Joseph Page Keeler and Miss Lizzie J. McCabe.

NORRIS—EDWARDS.—In Philadelphia, on Wednesday, September 2d, Dr. Elmer P. Norris, of Newcastle, Pennsylvania, and Miss Mary Edwards.

WIGHT—ROBBINS.—In Montclair, New Jersey, on Monday, September 28th, Dr. Jarvis S. Wight, Jr., of Brooklyn, and Miss Ida Pelham Robbins.

### Died.

GERHARD.—In Norristown, Pennsylvania, on Thursday, August 13th, Dr. Emanuel F. Gerhard, aged thirty-eight years.

FLEMING.—In Magnolia, Massachusetts, on Tuesday, August 18th, Dr. Andrew Fleming, of Pittsburgh, Pennsylvania, aged sixty-eight years.

HARRIS.—In Brantford, Canada, on Wednesday, August 26th, Dr. William T. Harris, aged forty-four years.

MATLACK.—In Downingtown, Pennsylvania, on Sunday, July 12th, Dr. William H. Matlack, aged fifty-nine years.

MILNE.—In New York, on Monday, September 28th, Dr. Charles Milne, aged fifty-six years.

ROSENTHAL.—In Chicago, on Monday, August 24th, Dr. Jacob Rosenthal, aged thirty-three years.

WALLIS.—In Arkadelphia, Arkansas, on Sunday, August 9th, Catherine, wife of Dr. J. C. Wallis, aged thirty-three years.

## Letters to the Editor.

SOME OF THE WORK ABROAD OF THE PASTEUR INSTITUTE BY ITS "MÉDECINS DES COLONIES EN MISSION."

No. 921 RUSSELL STREET, NASHVILLE, TENNESSEE.  
September 16, 1896.

To the Editor of the *New York Medical Journal*:

SIR: The pen of a lady that has instructed our profession in one of its branches of knowledge whose ap-

prehension by medical men is perhaps the occasion of the deepest despair of those who impart its principles, has enriched the pages of a magazine\* that has shown aforetimes a certain kindness toward doctors with an account of the parent institution and of some of its emissaries abroad. I must disclaim decisively the intention to treat familiarly the article in question, which is far beyond my commendation; while I confess that it has stimulated me to write out what I have seen here of late in sheer admiration of the results secured and in hopefulness of those almost sanguinely promised by current work.

The institute here is in charge of Dr. Lépinay, who administers personally the treatment of all patients bitten by rabid dogs, of which the quota of the tropical countries south of China is very large, there being no scarcity of them in China itself. Singapore has the most stringent regulations about the importation of dogs, the British fondness for which serves to keep one or more individuals under treatment here almost all of the time. I thought of Canon Wilberforce's objections to a Pasteur Institute in England—his belief in the immortality of the souls of animals†—in connection with a back-chilling ghost story ascribed to him by an acquaintance of his in Hong Kong, who declared it among his published works, as I looked into their carefully protected cell upon two big rabbits that had received subdural inoculations and that were definitely expected to die of hydrophobia at a time stated within quite narrow limits.

Their trephine wounds were scabbed, and their appetites were as little impaired, to all appearances, as if they had been awaiting a so-called natural death. Now, according to a principle lately enunciated by a titled individual of the same name as mine, in the setting of his profitable, "in-bred" style, each of these two specimens of a kind that is a marvel in the matter of reproductiveness has earned the funeral appropriate to the individual whose life it is considered to have prolonged. I have no hesitation in asserting that I fail to perceive wherein would lie the advantage, either to animals or to man, in making many of the days of the latter a succession of funerals to dead brutes; for I think that it is evident that fallible man can no more *prove* that any rabbit saved any man from the shocking death of rabies than he may that any one of an unrecorded number of slaughtered chickens prevented death by a timely frustration of some misadventure of nutrition. Furthermore, it appears to me that a fair examination of the statistics of the Paris institute, quoted in *L'Illustration* for March 7, 1896, ought to convince any one whatsoever of the effectiveness of Pasteur's treatment of rabies.

The completeness of the precautions against extraneous contamination in the inoculation of these patients is as bewildering to a non-technical observer as the latest improved Hoe printing-press in full operation would be to an ambitious country blacksmith. Dr. Lépinay has apparently had for long an interest in hydrophobia; and some of his statements about its incubation are full of great interest, although they require too detailed a statement for insertion here.

Another part of his employment is the superintendence of vaccine lymph. It has been produced from young buf-

\* Mrs. Grace Frankland, in *Longman's Magazine*, February, 1896.

† *Westminster Gazette*, 1894.



faloes (Fr. *buffle*; *Bubalus buffalus* (?) since 1891. Prior to that year, imported cattle and their progeny had never been made to yield a vaccine of anything like uniform strength. This experience has been corroborated elsewhere, and it has some relation, I think, to the important questions which various antitoxines suggest, the worst needed of which just now appears to be one for the plague the production of which is being retarded by some of these subtle things. The commercial tricks of the vaccine trade—so often exposed in the United States—have no place here. But, because the staphylococci are not encouraged to assist in the production of material to be sold, it must not be supposed that it is an experience altogether and invariably light to secure its protection. Confirming what I had been told, I was shown an opinion by the late Dr. R. Alex. Jamieson, of Shanghai, that did all in the power of honest and vigorous words to forestall that impression; which stated at the same time with the conclusion from his wide experience of its use—that there was little real need to seek further than this for a reliable preventive for small-pox—the fact that its manner of taking hold of a case was active and decided. I heard Dr. James Cantlie attack this vaccine, at the time of the Address to him in Hong Kong last February, with a warmth that surprised me as much I was soon amused by the nationally characteristic declaration following, to the effect that the law should protect the innocent and ignorant public from exposure to its dangers.

To leave no misapprehensions of my contriving after quitting this subject, I must state that I have never used the lymph under consideration myself, there being a squadron order for the Asiatic station that encompasses its prohibition; and that I may neither discuss nor disregard.

An unusual utilization of the supply is indicated by the following:

*“Ville de Saigon. AVIS: Tous les Landis à huit heures du matin, au porte du Marché, séance de vaccination et de révacination gratuite. Délivrance de certificat de vaccine.”*

This is repeated in Chinese characters, and in a local dialect given phonetically in Roman characters. There is no date whatever.

Speaking generally, one does not observe many “chop-dollar” visages—the results of small-pox, at least—among the natives he meets in these towns, who seem a rather short-lived folk and not unfertile in a reproductive way only. The absence of Lamb’s unkindly taking of small-pox is often remarked of the younger part of the population of Japan, in which progressive country there is organizing a centennial celebration of Jenner’s discovery.

If effective vaccine lymph were not yet in the echoes in my sensorium, I might be charged with the supererogation of commending Jenner, when my sole attitude toward him is one of undiminishable reverence for the hardness of head that enabled him to maintain, in the face of what no man may accurately weigh, the fact that the nut that he had found, like the most veritably blind pig, was the seed of the immortal oak, and not the vulgar chestnut, so prone to hide the uncleanly larva.

This laboratory was the scene of Calmette’s definitive researches upon the venom of serpents, which have yielded such results that one of his collaborators told me that he had heard it from Calmette himself that he

was unable to supply the almost universal demand for the antivenomous serum that bears his name. I, a native of Kentucky, was made the recipient, in trust for science, of a *flocon* of this serum, containing about twenty cubic centimetres, a dose *sub cute*, of course, for an adult. I shall have it tested on a case of the Loochoo Islands’ viper’s bite, about which two University of Pennsylvania men have lately collected some exact information. But it tried my frivolous soul to let pass the joke that was, as I had learned by much lamentable experience, not translatable; and, in witness of the fullness of my forgiveness of its sting, I send herewith a translation of Calmette’s appeal for venom. I have distributed this as effectually as I could in a personal way, in full view of its possible effects upon the demand for the older remedy for snake-bites, the profusion of Kentucky’s production of which has given to all her sons a reputation for the intemperance that they have made seductively easy for their neighbors. Calmette roundly declares it hurtful to those bitten by really poisonous snakes, a fact which I shall boast that I have long maintained. The explanation in order after this admission is that in its wild state the rattlesnake is not an infallibly deadly reptile, and that many recoveries are in spite of the treatment employed.

The most interesting of the very numerous interesting things that I heard in this connection was the case of cobra bite that was cured here. The subject was an Asiatic assistant in the institute, who was bitten on the naked hand by a captive snake. The antivenomous serum was at once used, along with the hypochlorite-of-lime solutions that Calmette recommends for neutralizing such unabsorbed venom as may have been excluded from the general circulation by a timely ligature about the affected limb. There was a good deal of local reaction, and a considerable tumefaction of the whole arm; but recovery was complete.

I saw two of these native assistants making an autopsy upon an enormous rabbit dead of hog-cholera, the ravages of which are extensive in this country. Some others were preparing some experimental media for the cultivation of the lepra bacillus just devised by Dr. Lépinay, who has devoted much effort to this subject; their “kitchen” was the most elaborately fitted one that I have ever seen.

I should be glad to forget the peculiar wickedness of expression that remained with the head of one of the largest cobras ever owned there; nor is the recollection of my feelings when Dr. Lépinay shook about fifteen grammes of dried cobra venom unpleasantly close to my nose an emotion to recall with fondness, notwithstanding his assurance that Calmette denies S. Weir Mitchell’s conclusion that it may be absorbed by intact mucous surfaces. It was just like *acacia*.

I came here to get a supply of antiplague serum upon the sufferance of Dr. Yersin, in order to test it upon the plague patients that are not becoming fewer to any encouraging extent at Hong Kong, being fully convinced that reasonable hopefulness may be expected only from some practical application of the antitoxic principles in such an hygienic wilderness as China. I had the great pleasure of being his guest at Nha Trang, a small village some two hundred miles from Saigon on the Annam coast. He is admirably equipped for work here; and this location was fixed upon by him, so as to avoid some of the dangers of a general infection that threaten from too familiar treatment of plague bacilli in a thickly settled place.



The production of the serum with which he was able to immunize and cure rats and some other small animals after their inoculation with the plague bacillus (*vide Annales de l'Institut Pasteur*, Paris, July, 1895) is a very slow and quite an anxious matter. The horses native to this part of the world have not as yet afforded quite the definite reactions after inoculation (or vaccination, according to Haffkine's nomenclature) with plague that were had in Paris; at the same time, they appear very susceptible to the various complications that this puissant organism invites. What he has obtained thus far, he considers too weak to try in a curative way upon human beings. It remains to be seen how the next lot produced will prove. Meantime, he has kindly ordered a supply to be sent out from the horse that yielded the best article in the experiments there.

A countrywoman of ours called my attention to the belief that she seemed to hold to the effect that in these efforts to cure a grievous scourge of humanity the will of God was being directly opposed. This suggested to me a new dilemma for the profession: if a patient dies of any malady whatsoever, as a matter of course his physician killed him; but whenever a person is either protected or recovered from an aforesaid difficultly curable and almost necessarily fatal—save for the treatment—malady, then must an impious medical attendant straightway repent, lest a worse thing befall him. It is surely not the least of the blessings of the science of today that such a question can no longer command serious attention.

Another subject of great interest that Dr. Yersin is investigating is cattle plague, which is very fatal to the native cattle and to buffaloes, hence a very effective bar to the extension of any bovine interests in the entire East. He is occupying himself with the organism that Metschnikoff demonstrated in the intestinal lesions constantly in that affection; but it is nothing like so satisfactory an object for experimental study as the plague bacillus (*Bacillus pestis*), which takes rank with the organism of anthrax and of diphtheria with regard to the definiteness of its cultural properties.

I learned briefly of Dr. Yersin's work in Madagascar last spring upon the hamaturia prevalent there, which the French call *biliuse hématourique*. He relinquished that investigation to Dr. Marchoux, another "médecin de première classe des Colonies en mission," at St. Louis, Senegal, whose future publications will be read with interest after Plehn's rather vague paper on the subject. Dr. Yersin spoke very confidently of his belief in the causal relation of a small bacillus present in pure culture in the urine and demonstrable abundantly in the glomeruli, with which he experimented for some time before resuming his work upon the plague. This seems to agree pretty closely with the results of the work a-doing for the committee on that disease for an interior medical society of ours, whereof by parcels I have something heard, but not intently.

The scope of the work indicated, which the genius of a single man has instituted and directed for a long voyage clear of every hazard whatsoever, would interest at some point the most carelessly idle drone alive; and not the least inconsiderable of its results will be, I think, an indirect one, the forcing of intrinsically less original nations to act in rivalry in this most humane field. Apart from the essential nobleness of the aims of its staff, which the triteness of worn-out phrases offers daily to most medical men; aside from the human sacrifices that its work has claimed, which weigh as feathers

in the estimation of calumniators who shriek untruthfully about the animals tortured because experimenters enjoy the infliction of torture upon them; there yet remains an establishment the efficiency of whose methods are among the greatest of modern achievements, and about which nothing that is discreditable may be said.

SAIGON, COCHIN CHINA, April 9, 1896.

*Supplementary Note.*—The publication of the foregoing has been most unconscionably delayed by circumstances for which no parties at present interested in it are in the least degree responsible.

In the interval that has elapsed, plague has declined for a second time upon the advent of hot and dry weather in Southern China after having extended its ravages to Amoy, Swatow, and Formosa; it is not fully ascertained that the sanitary measures instituted against it in the latter place by the Japanese have succeeded in arresting its spread. Reports from some other cities on the southern Chinese coast indicate its gradual spread where the fatalism of the people and their ignorance and absence of public spirit offer it no real resistance.

In a personal letter to me from Hong Kong of date July 21st, last, Dr. Yersin says: "Je pars demain pour Nha Trang après un séjour de quelques semaines en Chine. Je m'étais subitement décidé à essayer déjà cette année l'action du sérum antipesteux. C'est pour cela que je suis venu ici."

"J'avais reçu enfin de Paris une centaine de flacons de sérum antipesteux: j'en avais préparé moi-même un certain nombre à Nha Trang; et grâce à ce matériel, j'ai pu faire à Canton et à Amoy d'intéressantes expériences."

"Lorsqu'on s'y prend à temps et que la maladie n'est pas trop avancée, le sérum antipesteux a une action efficace très rapide et très frappante, mais il ne faut pas attendre pour traiter les malades que les accidents paralytiques du cœur soient commencés; car à ce moment là il n'y a plus rien à faire."

There has appeared an inconspicuous notice of these important results in one of the latest numbers of a prominent English weekly medical journal; and I am sorry to be unable to give the exact reference. I am glad to call attention to the fact that the same publication appears to regard the Pasteur Institute in India as one of the certainties to be evolved in the near future, and that its scope will not be confined to the treatment of rabies merely.

The *Saturday Review* of August 8, 1896, contains an account of a demonstration by Calmette of the immunizing power of his antivenomous serum before some sort of a commission sent to Lille from England; and the author of the notice inveighs mildly against some objections that have been urged, presumably, against its use which are based on the fact that the exact nature of the protecting agent is unknown.

My pleasure at these early and literal fulfillments of the predictions that conclude the above letter written at Saigon is completely negligible in the possession of these results of experimentation, which never could by any possibility have been reached by any other method; which have for the first time in the history of our earth afforded mankind a reasonable hope of assistance when suffering from hydrophobia, from cobra-bite, and from plague; and which take no account whatever of the great significance of Haffkine's peerlessly unselfish and arduous work in the long course of his anticholera inoculations in India, where, it is to be hoped, he will have many years of useful work in the Pasteur institute

to be established for him in spite of all bishops, canons, and other ecclesiastical authorities opposing.

W. F. ARNOLD, M. D.,

*Passed Assistant Surgeon, United States Navy.*

#### ALBUMIN TESTING.

*CHICAGO, September 28, 1896.*

*To the Editor of the New York Medical Journal:*

SIR: In your issue of the 26th inst., Dr. E. H. Bartley charges error in certain conclusions which were published in the *Journal* of September 5th under the title of Albumin Testing. He avers that albumin, globulin and the albuminates are classed together as serum-albumin in my article. He takes exception to statements made regarding the selective action of the potassium-ferrocyanide test for serum-albumin, and also to the reactions as described of the sulphate-of-ammonium test for peptone. Replying to Dr. Bartley's exceptions, I would recommend a second and more careful perusal of the article in question. He will find no attempt to classify globulin, albuminates, and albumin together as serum-albumin, as he states. These bodies are considered separately, and the two former, for reasons set forth, are disposed of and specifically excepted from further participation in the procedures described. This is done to simplify the method and render it more eligible for practical clinical work. To consider serum-globulin and serum-albumin together because of their parallel significance and occurrence would be no unique view to take, since many authorities admit the first named to be mainly of theoretical interest at present.

Dr. Bartley has overlooked the following distinct statement made regarding the action of the ferrocyanide-of-potassium test: "It precipitates all modifications of serum-albumin, including the albuminates." This action is stated to constitute an advantage for the method for, I think, obvious reasons.

Regarding the action of the ferrocyanide test upon proteoses, the only member of this group precipitated by the reagent is protoalbumose, and in using the tenper-cent. solution of potassium ferrocyanide in the manner recommended the reaction is frequently indistinct and uncertain. Moreover, it is readily dissipated by heat, thus distinguishing it from that due to serum-albumin. This reaction was designedly not mentioned in my paper, as protoalbumose is a rare urinary product and of doubtful significance, consequently it would prove at present a more confusing than useful element in a practical clinical method.

Exception is also taken to my account of the reactions of the sulphate-of-ammonium test for peptone. This is evidently due to misconception of or unfamiliarity with the method I refer to. It will be found well described in Halliburton's *Chemical Physiology and Pathology* and in Purdy's *Practical Urinalysis and Urinary Diagnosis*. The following description is taken from Dr. Purdy's book:

"Saturate the urine (slightly acidulated first with acetic acid) with sulphate of ammonium and filter out any precipitate formed which may consist of albumin, globulin, protoalbumose, heteroalbumose, or deutoalbumose. Any proteid remaining may be precipitated by potassium-mercuric iodide or picric acid and can only be peptone [a positive reaction]. This is in fact the only certain method of identification of peptone."

The last brackets are mine.

I can indorse Dr. Purdy's recommendation of this test.

In conclusion, I repeat that the methods set forth in my article will be found to constitute a reliable, quickly applied, and easily available means for the detection and distinction of the proteids occurring in urine.

ARTHUR R. ELLIOTT, M. D.

#### Proceedings of Societies.

##### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in St. Paul on Tuesday, Wednesday, Thursday, and Friday, September 15, 16, 17, and 18, 1896.*

The President, Dr. HENRY O. WALKER, of Detroit, in the Chair.

**Cases in Renal Surgery.**—Instead of making a formal address, the PRESIDENT reported three cases of surgical affections of the kidney. He said that his experience in the fixation of movable kidney had been most satisfactory. In a case narrated, the kidney had been placed in its proper position and the capsule divided for a distance of three inches on its convexity, care being taken not to wound the cortical substance. The capsule had then been separated from the kidney for an inch entirely around the cut. The cut edges were fastened to the fascia and muscle, so that when the suturing was complete there was a solidity of fixation of the kidney. He did not use the deep suture through the substance of the kidney. The simplicity of the method commended itself both as to safety and as to a greater probability of permanent good results. The most practical route to the kidney was anteriorly. Fixation of a movable kidney is best done by stitching its reflected capsule to the muscles.

**A New Operation for Cleft Palate.**—A paper with this title was read by Dr. TRUMAN W. BROPHY, of Chicago. He took the ground that the operation should be performed much earlier than had been the custom. It had usually not been thought advisable to operate for the closure of cleft palate until the child has reached the age of from two to five years. He maintained that when the operation was thus postponed the changes in the voice had become permanent, and a repair of the cleft at that time would not react favorably in the voice production. His operation consisted in freshening the edges of the cleft; then, by deep suture of silver wire fixed through a lead plate conforming to the palate, the edges of the cleft were drawn together and so maintained until healing took place. The steps of the operation were minutely explained. It was original with the author and in his experience had proved most effectual.

Dr. W. H. DALY, of Pittsburgh, complimented the author on presenting a method so original. It did away with all the objections to the old operations, which in some cases one was compelled to do four or five times, and even then the result was never perfect, inasmuch as one could not at that late date teach the patients perfect speech.

**The Psycho-neural Factor in Clinical Medicine.**—Dr. C. H. HUGHES, of St. Louis, in a paper with this title, said the physician must consider the whole mechanism of the system when treating any one part. Some parts of the body influenced the whole less or more than others. The surgeon must consider the susceptibility, pre-



disposition, powers of resistance, recuperative powers, and natural courage of the patient in determining as to the prognosis or an operation. In any case the nervous system was either for or against him. Painful ovaries, neuralgic, congested, or inflamed, were not necessarily to be cut out, but to be cured by neurological treatment. The surgeons were beginning to recognize only those symptoms which came within their own legitimate sphere. He must have a wide neurological and psychiatric knowledge if he would avoid fatal mistakes. Much could often be done in palliation by tranquilizing neurological treatment. In fatal surgical results the reputation of the operating surgeon often suffered because of his having overlooked neurological conditions. Hope was itself a buoyant medicine, and faith in the physician or surgeon was a therapeutic power that should never be shattered.

Dr. BUCKNER of Cincinnati, said the paper was evidently the result of experience. A good surgeon must be hopeful, calm, and at all times careful to avoid anything disturbing to the patient already fearful of the prospects of an operation. It required but little observation for the good physician and surgeon to realize how important it was to be careful of every expression, act, and word in the sick room.

Dr. PARKER, of Cleveland, agreed with the writer, but said that, even with the aid of the neurologist, we were unable at times to make a diagnosis, and, indeed, there were many things in neurology that were not yet settled. The stress the author had laid upon the danger of intimidating the patient was right. It was desirable to anesthetize the patient in a side room. We knew the disadvantages of this as surgeons, but the advantages were very much greater.

**Trunk Anæsthesia in Locomotor Ataxia.**—Dr. HUGH T. PATRICK, of Chicago, read a paper in which he said that in nearly all cases of tabes dorsalis there was a band of anæsthesia about the trunk at the level of the nipple. Early in the disease it was very narrow or even incomplete, or might be represented by a zone in which the localization of touch is not normally accurate. The sensory blunting on the leg, so frequent in tabes, was generally an analgesia. The trunk anæsthesia was essentially tactile and the pain sense might be quite normal. The band of anæsthesia did not correspond to the cutaneous distribution of the intercostal nerves, but to the nerve fibres arising from adjoining segments of the spinal cord. In some cases there were two distinct zones of anæsthesia, indicating simultaneous involvement of spinal segments at some distance from each other. The borders were inconstant, ordinarily retracted on continued testing, and varied in position with the method of examination. The same band of anæsthesia might occur in syphilitic pseudo-tabes. The principal characteristics of the symptoms were illustrated by numerous diagrams and photographs.

Dr. HUGHES said it was not surprising that these peculiar areas of anæsthesia should be found in locomotor ataxia, considering that the entire symptom-complex of the disease was due to disturbance of the sensory mechanism. Organic disease might give expression to a latent hysteria, causing a combination of the two diseases. In locomotor ataxia there might be either anæsthesia and analgesia or hyperæsthesia and hyperalgesia.

**The Treatment of Some Inflammatory Diseases of the Gastro-intestinal Tract.**—Dr. GUSTAVUS BLECH, of Detroit, read a paper on this subject. He said that the

treatment of catarrh of the stomach and other similar inflammatory conditions of the organ, as it was practised to-day by most medical men, met with failure because it was directed against the symptoms and not against the cause of the disease. All the usual remedies might improve one or more of the symptoms for a limited time, but, the ætiological morbid conditions still remaining, the symptoms necessarily would appear again. His treatment was directed against the inflammation itself. He prescribed hydrozone, well diluted in water, at least a quarter of an hour before each meal. The oxygen which then developed killed the germs and cleansed the wall of the stomach without injuring the animal cells. It was an efficient and powerful, yet still bland and innocent remedy. He had seen the most stubborn cases of ulcer of the stomach end in recovery under the treatment.

Dr. DALY deprecated the very general use of glycozone, hydrozone, and other such remedies unless a very careful and discriminating diagnosis had been made.

Dr. PATRICK could not agree with the author until it was explained which variety of inflammatory condition in the stomach was referred to. Gastritis was too comprehensive a term. When a treatment was proposed we must know what form of gastritis we had to deal with.

Dr. I. A. ABT, of Chicago, said that diseases of the stomach could not be grouped together as gastritis. Many of these conditions were due to toxins found in the gastro-intestinal tract. We could not always make a positive diagnosis at once, but by experiment only could we arrive at definite conclusions. Any one remedy could not answer for all cases. Few writers deemed lavage of importance except as a diagnostic measure.

Dr. LARRABEE, of Louisville, said that almost any condition found in the stomach might come from the causes mentioned, but he was convinced that the portal circulation was a most important factor in these cases, and one, too, which was often overlooked. Exercise was of paramount importance in all cases of chronic gastritis. In arresting putrefactive changes in the stomach glycozone had proved in his hands most excellent, but he would not neglect to stimulate the liver when it was indicated.

**The Treatment of Experimental Tuberculosis in Animals by the Use of Blood Serum.**—In a paper thus entitled, Dr. PAUL PAQUIN, of St. Louis, said that the use of antitoxin went back to the active principle underlying immunization, an agent which is itself curative to a certain degree. Tuberculin was, to a degree, capable of modifying certain forms of tuberculosis. The inconvenience resulting was chiefly in the more or less severe reaction following. It was now maintained that tuberculin might be made with this poisonous principle eliminated. Experiments on guinea-pigs, unfortunately, did not give the same results as those made on the human subject. Furthermore, the experience of investigators with the serum treatment of tuberculosis varied greatly. They all, however, demanded of any treatment absolute cure of the tuberculosis when used on the human subject. We had been busy with all possible and varied forms of experimentation on the smaller animals, but we were not always able to properly interpret the results of any given form of treatment and then make an exact application of those principles to man.

Of guinea-pigs inoculated with tuberculosis and then treated with serum, ten per cent. were saved. Later



results showed a very much higher percentage than this. Antitubercle serum was positively curative in many cases; it had passed the experimental stage, but yet we knew it was not perfect. Only a certain proportion of tuberculous patients could, with our present knowledge of tuberculosis and antitubercle serum, be treated successfully.

Dr. LONGSTREET TAYLOR, of St. Paul, said it was not necessary that the serum should produce an antitoxine in the body. It would in many cases give most gratifying results, but in others, for some reason, it was disappointing. His experience with the Paquin serum had not been entirely satisfactory, but he would give it further tests.

Dr. I. N. LOVE, of St. Louis, had heard several papers on the most important subject by the same author during the past four years. Maragliano had recently published his work on the subject. The treatment was now almost beyond the stage of experimentation, but we must not be too hasty in our conclusion, for at least ten years' experience was necessary before anything would be positively and definitely known.

Dr. W. F. BARCLAY, of Pittsburgh, was satisfied that some such men as Paquin would demonstrate the ultimate success and positive value of antitubercle serum, and he hoped criticism would not discourage him and others.

Dr. H. W. LOEB, of St. Louis, remarked that at the last meeting he had presented some reports relative to the treatment of laryngeal tuberculosis with serum, and promised to report the results. While they had not been so good as he had hoped, yet they were such as to encourage still further attempts. Of the cases reported, in at least two the patients were yet living and well. As to two others he could not say, but at the latest reports there had been no return.

Dr. CHARLES GREEN, of St. Paul, said that the fallacy of medical statistics was best shown by tuberculosis. He had not much confidence in any such. Two centuries ago a cure for tuberculosis had been vaunted as infallible.

**Demonstration of the Therapeutic Action of the Antitoxines** was the title of a paper by Dr. E. M. HOUGHTON, of Detroit. The author reviewed the theories of serum therapy and demonstrated the differences between toxins and antitoxines.

(To be continued.)

## AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.*

The President, Dr. WILLIAM H. DALY, of Pittsburgh, in the Chair.

(Continued from page 368.)

**A Case of Gunshot Wound of the Pharynx.**—Dr. D. N. RANKIN, of Allegheny, Pa., read the history of a case of such an injury. (See page 359.)

Dr. JOHN O. ROE said: A somewhat similar case came under my observation about eight years ago, that of a man about fifty years of age who had been wounded in the army. The ball entered the left side of the face, passed through the superior maxilla, and came out on the opposite side of the face in relatively the same location. In its passage through the jaw it carried away the palatine arch and the lower portion of the vomer,

leaving an opening through the hard palate about half an inch in diameter, which had remained unclosed; and through this opening a distinct view of the turbinated bodies and the interior of the nasal cavity was presented. The lower turbinated bodies were very much hypertrophied and afforded a beautiful illustration of this condition viewed laterally while *in situ*.

**The Control of Hæmorrhage in some Operations in the Nose and Throat.**—Dr. A. COOLIDGE, Jr., of Boston, read a paper on this subject. (See page 350.)

**A Case of Unusual Laryngeal Growth.**—Dr. J. W. GLEITSMANN, of New York, reported such a case. (See page 444.)

Dr. MAYER, of New York, said: I was much interested in this paper, as I had examined the patient when he was exhibited some time ago. No histological report had then been made and there was much question as to diagnosis. The remarkable point was the snow-white appearance of the mass, resembling the cauliflower excrescence seen on the base of the tongue and on the tonsils in mycosis. In view of the report here presented it would seem that further investigation would show that the patient finally succumbed to the disease.

Dr. C. C. RICE, of New York, said: I should like to know how deep this exudate extended, if it was an exudate at all. I am impressed with the many unusual cases we find that do not follow the ordinary course, the syphilitic and tuberculous growths and other similar affections. Microscopical examination is necessary to determine their true character. Perhaps the inflammatory exudate was the cause of the external appearance.

Dr. J. E. NEWCOMB, of New York, said: At the meeting of the academy to which Dr. Gleitsmann alludes in his paper no one was willing to make a diagnosis, although the majority thought it was syphilitic. With regard to the question of Dr. Rice, I think the iodide of potassium is a good thing. In many cases a malignant growth is surrounded by an inflammatory zone which will disappear under the use of the iodide. I think, therefore, it should be used and persisted in in order to clear up this zone.

Dr. G. V. WOOLEN said: I have never seen this whitish appearance but once, and that was in a case in the London Throat Hospital in 1886. The condition looked as if you were looking down upon snow-covered mountain crags that were standing close together. On removing a piece of the growth it proved to be malignant.

Dr. A. W. MACCOY, of Philadelphia, said: I should like to ask if the doctor has ever found anything resembling mycosis.

Dr. GLEITSMANN said: I have never found any symptoms of actinomycosis. Iodide of potassium had already been given to the patient. Applications with the cotton carrier, rubbing over the tumor, did not change its aspect. It was rather hard, more so than I expected, and required sharp and well-cutting forceps. Its excision proved to be not very difficult, and the hæmorrhage was slight. I am of the opinion that the patient will ultimately succumb to the disease, as the indications point to the tumor being malignant.

**The Sequelæ of Syphilis and their Treatment.**—Dr. CHARLES H. KNIGHT, Dr. J. E. H. NICHOLS, and Dr. W. K. SIMPSON, each read a paper on this subject. (See pages 379, 418, and 394.)

In reply to Dr. KNIGHT'S query as to how the plate was inserted Dr. KNIGHT replied:

About five minims of a ten-per-cent. solution of cocaine are first injected into the skin over the dorsum of the

nose, and the nostrils are sprayed with a similar solution. A short-bladed bistoury, with its cutting edge extending around its tip, is then introduced into the nostril, and the skin is carefully dissected from the nasal bones and from the anterior margin of the septal cartilage. A plate of platinum, which is said to be less irritating than aluminum, about a third of an inch wide and three quarters of an inch to an inch in length, with its edges and ends smoothed down and bent over, may be tucked into the bed thus prepared.

Dr. ROE said: The most serious cases of syphilis of the nose that I have seen have been in children, and were hereditary. In several of these cases the whole internal structure of the nose, both the osseous and cartilaginous portions, was entirely destroyed, the nose dropping in until it was flat with the face, while the skin was left intact. In one of these patients, a lad about eight years of age, the nasal bones were completely destroyed, and also the soft parts covering them, so as to leave an opening in the place where the nasal bones were, just below and between the eyes. In nearly all these patients the ulceration was still going on when I saw them, and attended with marked fetor.

In the majority of cases which I have seen in adults in which there was a deformity of the nose as the result of syphilis, it was due to abscess of the nasal septum caused by the syphilitic infection which destroyed the cartilaginous portion of the septum and thereby caused a dropping in of the anterior portion of the nose. It is this class of cases that most often come to us for restoration of the nose to its original condition or the removal of the deformity. Four years ago I presented a paper on the subject of corrections of deformities of the nose resulting from abscess of the nasal septum. In the majority of these cases the abscess was the result of a specific disease. These deformities I correct by subcutaneous flap operations. Notwithstanding the fact that the cartilaginous portion has been removed, all the soft parts are usually there, although in a distorted condition, flattened on top, and swelling out at the sides.

By raising the skin from the top of the nose and cutting these portions on the side which has become flattened out and turning them up over the top of the nose and holding them in place by either a pin or a clamp, a symmetrical nose may be obtained. Sometimes the cartilaginous portion of the end of the nose is unduly prominent. Thus in some cases it is necessary to lower it in the manner which I have formerly described for correcting the deformity termed "pug nose." This, of course, makes the nose smaller; but, as I described in my article on Pug Nose, the size of the nose matters little so long as the nose is symmetrical, for no two noses will be found to be exactly of the same size. A small, symmetrical nose will be handsomer and much more sightly than a large, unsymmetrical nose, and *vice versa*. In some of these cases, if the bridge of the nose is unduly prominent after the end of the nose has been made symmetrical, this angular prominence can be removed after the plan which I have described for the correction of angular deformity of the nose by subcutaneous operation. In many cases it is necessary to combine these different operations in order to bring about the desired result.

In the case of the lad that I mentioned, where the nose had been destroyed and an opening had been left in the top of the nose between and below the eyes, I restored this nose by using a finger after the method of Sabine, and had a very satisfactory result. Before this

operation the lad had a very repulsive appearance, so much so that people would shun him; but afterward the deformity was not markedly noticeable.

Dr. A. W. DE ROALDES said: I presume every one of us has come in contact with cases like those referred to. I have seen several where I would have given a good deal to have been able to restore the parts to their normal condition. I should like to see this question brought up at a future meeting. And those who have given much time to this subject should put their experience into systematic papers. I know of a case now where I could make a very large fee if I could only make a very good nose, but I have never felt sufficiently satisfied that I could do so to attempt or to recommend an operation. I have never seen cases which have convinced me that I should be justified in recommending an operation. As to syphilis of the nose, referred to by Dr. Knight, I must say I am not in favor of Rouge's operation in order to remove sequestra, as I think it is unjustifiable. There is nothing that can be better done by this operation than could be done by intranasal surgery. I have seen cases like those of Dr. Knight's, and in working on them I have had to use ice water in order to reduce the temperature of the burr or saw. By a little perseverance I have got through these exostoses. Very often the bleeding from the doctor's operation is very excessive. In my opinion, where you want to reach the nasal cavities, intranasal surgery should be the way to do it, drilling and holding the parts with strong forceps answering every purpose. Another thing, there will be no cicatrices in case you would want to do any other operation, while in the doctor's operation you will find considerable cicatricial tissue.

Dr. J. E. H. NICHOLS said: I will briefly describe three cases in which I have operated. In one case I attempted to put the nasal plate under the skin and on the nasal bones, the anterior end resting on the columna, and I wired it to the nasal bones. The principle was wrong, however, and an abscess formed on the bridge of the nose with subsequent falling in of the skin. This was due to the leverage pulling on the anterior end. In the second case the cartilaginous septum was destroyed. I attempted to build up the fleshy portion of the nose by putting in a saddle. This worked very well and brought the bridge of the nose into position. The saddle, however, was suddenly dislodged, and it was very hard to retain it in position, so I had to take it out. In the third case I used a method something like Dr. Hopkins's operation. It was a very severe case, as the patient had no nose whatever. The fleshy portion had sunken in and the face was much disfigured. I introduced a bridge through the side of the nose by incising at the nasolabial fold and carrying the ala over to the other side. The patient has worn this bridge for sixteen months without any bad results. The peculiarity about the case is that the cicatricial tissue had enveloped the arms of the bridge. There is a very slight opening in the centre and no breathing through the nose. The patient desires me to make an opening but I have refused.

Dr. E. FLETCHER INGALS, in discussing Dr. Knight's paper, said: With reference to ulceration of the cartilaginous septum, my experience differs from that of some of the speakers, for I have rarely seen ulceration of the cartilaginous septum that could be ascribed to syphilis, unless the bony septum was also ulcerated. I think it is unfair to assume that such cases are syphilitic, for I



believe this disease is not the cause in more than five per cent. of the cases. As a local application I prefer the strongest tincture of iodine. It was some years before I knew how to use iodides internally, and I am satisfied many failures occur in treating syphilis because the physician has not learned this lesson. I once had a case of syphilitic hypoglossic thickening in which I had to do tracheotomy. I had already given iodide of potassium in doses of twenty grains four times daily without avail; but after the operation, on the advice of the late Dr. Jewell, of Chicago, I increased the dose five grains each day until I was giving a hundred and twenty grains, largely diluted, four times a day. The effect was marvelous, and the thickening, of several months' duration, seemed to melt before my eyes and the lumen of the larynx became perfectly free in ten days. In giving large doses of the iodide of potassium, I gradually increase the dose, as in this instance, until the maximum dose is attained; this is continued for three or four days, and then the dose is reduced to twenty grains, which is steadily increased as before. The reason we often fail with the iodides is because we do not give enough.

Dr. W. P. PORCHER said: I recently saw a case in which there were tuberosities large enough to produce complete occlusion of the nose.

It has not been my experience that ulcerations begin in the cartilaginous portions of the larynx. I can not say anything about treating cicatricial contraction. As to general treatment, I know many syphilographers object to the combination of mercury and opium, but I have had very excellent results with it. I merely push to pyalism and not to salivation.

Dr. F. E. HOPKINS said: Dr. Knight's paper is especially interesting to me in its description of methods for overcoming the deformity due to loss of the bony framework of the nose. In selected cases, where sufficient time has elapsed since the initial lesion, I think the placing of a platinum framework—introduced after performing Rouge's operation—offers the best method for correcting the deformity.

In those cases which have received thorough constitutional treatment, and in which some years have passed since the appearance of active symptoms of the disease, the foreign body is tolerated with little irritation. Rouge's operation gives the opportunity for separating cicatricial adhesions and for the placing of the bridge so that no undue pressure is brought upon any part, and the careful molding and adjusting of the metallic bridge restores the individual contour of the nose.

I have done this operation twice, and while of neither case could it be said that nothing was left to be desired, the failure was due to the causes pointed out by Dr. Knight rather than to defect in this plan of operating.

In both cases there was satisfactory restoration of contour, but in the first one of the supporting arms of the bridge was placed too near the gingivo-labial fold and it gradually cut its way through this, so that its edge is visible upon raising the lip. It is fourteen months since this case was operated upon and the bridge is still worn comfortably by the patient.

In the second case the operation was done too early and it was necessary to remove the bridge after a few months. Both these errors could have been avoided by following the principles laid down by Dr. Knight.

Dr. HUBBARD said: Dr. Knight requested an opinion as to the special indications against the use of mer-

cury; and, further, gave the opinion that concealed caries, with retention of pus and debris, especially such as occurs in syphilis of cancellous bone, was a contraindication against mercury. Unless the necrotic tissue can be removed, and the carious area be cleansed thoroughly, iodides in very large doses is certainly the more rational treatment.

Dr. D. B. DELAVAN said: I have seen a case of total occlusion of the pharynx. In the patient referred to no artifice that was resorted to was able to show the existence of even the smallest sinus. Another thing to which attention should be called is hemorrhage, which, primarily or secondarily, is likely to occur.

Dr. KNIGHT said: I devoted much of my paper to Martin's bridge operation to the exclusion of other methods, as in cases in which it has been properly employed the correction of the deformity has been complete and the tolerance of the apparatus has been perfect. When the indications are followed, especially as regards the time of the disappearance of syphilitic symptoms, I believe that it will prove successful. I can not agree with those who regard Rouge's operation as a serious one, and under certain circumstances it is of service. I remember operating in a case of extremely large sequestrum of ivory hardness on which I could make no impression with a drill. Even the lithotrite was employed unsuccessfully. I do not think it has been shown that this operation is likely to induce any secondary or primary hemorrhage that can not be controlled by pressure. The disastrous cases of this operation have been those in which the sequestrum was high in the nasal chambers and was removed with difficulty, considerable violence being necessary. The space offered by this incision is somewhat disappointing. In the case I have just mentioned it was necessary to chip away a considerable portion of the maxillary bone. As to constitutional treatment, the principle which I have been in the habit of following has been to use mercury in late syphilis when it has not been given early. As Dr. Ingals has suggested, I have given iodide of potassium in large and increasing doses, being guided by its effects. The combination of mercury and iodide will sometimes be beneficial when either drug separately would have no effect.

Dr. NICHOLS said: I should like to ask Dr. Delavan if the case he referred to where there was no opening in the larynx has ever been reported?

Dr. D. B. DELAVAN said: In response to Dr. Nichols's inquiry, I would say that the case referred to has not been reported. Knowing the rarity of these cases, I tried every means to find an opening, such as endeavoring to force air and colored liquids from the nose into the pharynx. I have seen a number of cases where the opening was very small.

**Epithelioma of the Soft Palate removed by Injections of Liquor Potassæ.**—Dr. THOMAS HUBBARD, of Toledo, Ohio, reported a case. (See page 361.)

**A Case of Perichondritis of the Left Crico-arytenoid Joint from an Unusual Cause.**—Dr. H. S. BIRKETT, of Montreal, reported such a case. (See page 385.)

Dr. LEBLANC said: In view of the involvement of so many of the joints in the rest of the body by the rheumatic poison, shown by their redness and swelling, I should like to ask Dr. Birkett why it is not reasonable to suppose that the left crico-arytenoid joint was affected in a similar manner. It is not uncommon to find fixation of one side of the larynx (in my experience more often the left) in cases where no other history can be obtained than



that of rheumatism. These cases are not very often seen when acute, but then a swelling may be present as well as in acute arthritis elsewhere. If this supposition is correct, Dr. Birkett is to be congratulated on having seen an acute affection of a laryngeal joint caused by gonorrheal rheumatism.

Dr. BIRKETT said: The reason why I have called this a case of perichondritis rather than that of simple synovitis is because the synovial membrane being so intimately associated with the perichondrium, it is always involved in the same pathological process, and the disease perichondritis is the more generally recognized form of affection.

**Some of the Unusual Manifestations of So-called Catarrhal Laryngitis.**—Dr. C. C. RICE, of New York, read a paper on this subject. (See page 445.)

Dr. M. R. BROWN said: The case of the singer being in constant voice with a red condition of the vocal cords interested me, as I had a similar one under observation last winter. The man was suffering from an acute attack of inflammation of the upper air-passages with some hoarseness. The hyperæmia of the vocal cords was unusually pronounced. On calling his attention to this he said the cords were normally red. I applied the usual remedies for the relief of the coryza, pharyngitis, and laryngitis, and ordered rest for the vocal organs. In four or five days the acute symptoms had subsided and the treatment was discontinued, although the vocal cords continued of a red color. I examined the larynx again in two weeks and found it continued in the same condition of hyperæmia. Four weeks later it had not changed. During this time he was in excellent voice. The gentleman informed me he had been aware of his red cords for some years past.

Dr. H. L. SWAIN said: We must all have seen one or more such cases of chronically inflamed larynx. I remember seeing one where the cords were persistently red while the patient was in perfect voice. The case was in Germany and I could not believe it was possible for him to sing in that condition. I heard him in an oratorio that same evening, however, and I never heard such singing before. It was a most perfect basso voice. The condition was one of intense redness and an appearance of thickening, which was constantly present to my certain knowledge for at least a year, during which time I examined him on several occasions.

Dr. A. W. DE ROALDES said: I should like to corroborate what Dr. Swain has said. We have first to consider the quality of the voice, and it is quite common to see basso and barytone singers with red vocal cords. I recollect one of the most famous barytones, who had sung all over Europe, whom I was called to see in New Orleans some time since. I found the vocal cords very red and was about to advise a leave of absence for several weeks. I spoke to the manager about it, as he relied very much upon this artist, and I spoke to him the following day. I stated that the patient should not attempt to sing with such cords, when he told me that his cords were always red. This patient went through the whole season successfully. Another point we should bear in mind is the constitution of the patient. You may very often cure the coryza but the congestion will remain. Tenors or sopranos can not do so well in these cases as basses. Rheumatic and gouty affections also are important. Those artists usually rest during the summer, and almost invariably go to some watering place. Upon their return, in the fall, you will find the larynx clearer, but never completely clear.

Dr. W. K. SIMPSON said: I sometimes doubt whether it was ever intended for the human larynx to be used for perpetual singing, as there are so few singers who do not experience decided trouble. I sometimes think that singing is not the natural use of the voice. It is an acquired use. The other organs of the body would suffer in the same way from excessive use, taking the eye for example. I think the exception to this rule would be the remarkable instances. When we think of the number of thousands of singers and of the few who exceptionally retain their voices, we can not but wonder if it is not an unnatural use. The singing voice that could be retained indefinitely would be almost an abnormal production. The retention of the singing voice requires so much art, study, cultivation, and general condition of good health, that we must force ourselves to look upon the larynx as an organ which can not be overused with impunity.

Dr. NICHOLS said: The female voice partakes of this condition, and especially the alto. For six or seven years I have had under observation a variety-hall singer and when I first saw her I thought she had acute laryngitis, but at the end of several weeks the vocal cords were still very red, and after watching her for some time no change took place. I came to the conclusion that this was normal. She would come to see me when the cords were very red and would tell me that she was in perfect voice the previous night. I think the apparent congestion is possibly due to the muscular overexertion which she is compelled to resort to.

Dr. RICE said: There is a great difference between temporary congestions brought on by many causes and the permanent redness I have referred to. The doctor says his patient was a barytone. One of my patients was a high tenor and the other a soprano. I think these affections are sometimes congenital and sometimes are caused by physiological overaction. I have seen cases of congestion of the vocal cords in gouty and rheumatic patients, but I have never noticed any marked difference in the color of the two cords.

**Presentation of Instruments.**—Dr. E. FLETCHER INGALS presented a compressed-air apparatus consisting of a cylinder eight inches long by three inches and a half in diameter, strong enough to stand a hundred pounds pressure; one end of this is movable, so that when not in use the air pump and all the tubes and spray apparatus can be placed inside. The whole is inclosed in a leather case, which is made a little larger so as to provide room for a laryngoscope and medicaments. One object of this was to furnish a small apparatus that could be conveniently carried to a patient's house or to the theatre. Another object was to furnish our patients with an instrument whereby they could get a high pressure for making applications to the larynx, where it is often impossible to get a spray with an ordinary atomizer. With this apparatus it is easy to get forty to fifty pounds pressure, and it will hold sufficient air to treat three or four cases. This has a valve for the main air-conducting tube to prevent leaking, and where the tank is connected with the pump there is a bicycle valve and also an ordinary stopcock for the same purpose. In closing the movable head, when the clips are fastened by the fingers alone there is a little leakage, but this can be avoided by tapping them with a knife or bit of wood.

Dr. INGALS also presented a saw with an adjustable handle, which could be placed at any angle. The saw has two blades, one cutting forward the other backward. The instrument is so made that it can be boiled and kept

clean. Both instruments are made by Sharp & Smith, of Chicago.

Dr. CARL SEILER presented an instrument and said: This was suggested to me by the case of a certain clergyman of Brooklyn who died through inhaling a cork which lodged in one of his bronchi. It is in the form of a cork-screw, attached to a spiral wire covered by another spiral, which is wound in the opposite direction. It should be introduced by covering the screw. When *in situ*, by rotating, and by a slight twist of the handle, it will imbed itself into the tissue if it is soft enough. I simply devised this instrument for nasal surgery. I have several made longer, which are applicable for nasal work. An instrument like this can be readily introduced without the slightest difficulty, it being perfectly flexible.

Dr. JOHN O. ROE presented the set of instruments used by him for the correction of deviation of the septum. Since the time that he first presented these instruments they had been modified and improved so that he now regarded them as perfect.

Dr. ROE also presented an instrument for dilating contractions and strictures of the trachea, having a long curve similar to that of Grant's laryngeal guard forceps, but having two double joints, so that the lower joint of the instrument will dilate very much wider than the upper joint, which is accommodated to the larynx.

Dr. THOMAS HUBBARD presented a modification of Bosworth's nasal snare. The rider to which the wires are fastened is so made that it divides, and one wire (or both) can be drawn home at a time, thus giving the true *écraseur* or sawlike action. The strain upon the wire is much less than where both wires are pulled home together. The wires are made fast to the rider by eccentric levers so set that the grip tightens as the power is increased.

**Some Thoughts about the Prophylaxis of Nasal Catarrh.**—A paper thus entitled, by Dr. SEILER, was read by title.

Dr. J. W. GLEITSMANN, at the request of a number of members, showed Kirstein's autoscope, although a demonstration of the instrument without a subject must necessarily be very unsatisfactory.

The autoscope enables the observer to inspect the larynx directly without the aid of the laryngeal mirror, and is especially useful to obtain a good view of the posterior laryngeal wall and trachea, often also of the bifurcation, which parts are often difficult to see by the ordinary method. The vocal cord and the interior of the larynx can be plainly and distinctly seen, when sufficient pressure is exerted with the instrument to raise the epiglottis.

Dr. M. J. ASCH said: I should like to say that the work I have seen done with this instrument was marvelous, the view of the larynx was perfect. The patient shown by Dr. Gleitsmann had been trained so that the instrument worked very easily. A special advantage is the excellent view of the posterior walls of the larynx, and the diagnosis and treatment of this region can be made with wonderful effect. Operations can also be done with its aid, which adds to its value.

Dr. ROE said: A short time ago I had the pleasure of seeing Dr. Gleitsmann use this instrument, and the clearness and distinctness with which every portion of the larynx could be seen, and even the trachea as far as the bifurcation, were perfectly marvelous. The larynx could be seen as clearly and distinctly as if it were held up directly before your eyes and brilliantly illuminated. It was the most perfect illumination and the clearest

demonstration of the human larynx in the living subject that I had ever seen.

Dr. FRENCH, commenting upon the instrument shown by Dr. Gleitsmann, said: I was present when Dr. Gleitsmann demonstrated this instrument before the Laryngological Section of the New York Academy of Medicine and was much impressed with the remarkable exposition of the interior of the larynx and trachea which the instrument is capable of making. As the pressure on the base of the tongue must be very great I can not believe that it will be possible to use it in many cases. I should be glad if Dr. Gleitsmann would give us the results of his experience in regard to the proportion of patients on whom he has been able to use it.

Dr. A. W. WATSON, commenting on the instrument exhibited by Dr. Gleitsmann, said: I can speak of this instrument from the standpoint of the patient, as I have had it used in my own throat. I think the number of patients on whom it can be used is very small unless they have been previously trained. The pressure at the base of the tongue is very painful and causes an uncontrollable tendency to gag. The point of pressure was felt for an hour afterward.

Dr. S. SOLIS-COHEN said: Like Dr. Watson I can speak of this instrument from the standpoint of the patient, as my brother experimented with it on me. The sensation was not a very pleasant one, and before applying it to the average patient I should wish to thoroughly cocaineize the parts or to be sure that the patient's stomach was empty and that he had considerable self-control. However, the view that one obtains is wonderfully clear; and Dr. J. Solis-Cohen certainly manages to use the instrument readily without cocaine the first time he sees the patient. This I take it is due to his exceptional skill in manipulation. After getting this instrument my brother hunted up an old tongue depressor of his own, and found that by getting into the proper position he could obtain nearly as good a view, so that he need not have waited for this instrument if he had had the wit to look obliquely downward instead of directly forward. This instrument, however, is concave, while Dr. Solis-Cohen's was convex. The convexity is quite important. The principal point, however, is to have the instrument so curved that it pulls the tongue forward. The name is peculiarly inappropriate; one does not view his own larynx. Orthoscope would be better, as our ordinary method of examination might be termed *retrolaryngoscopy*; and this is the opposite.

Dr. INGALLS, continuing the discussion on Dr. Gleitsmann's instrument, said: I can not speak from the same standpoint as the other gentlemen. Would it not be possible that a little more curve in the instrument would enable us to operate under a general anæsthetic?

Dr. J. H. HARRMAN inquired if Dr. Gleitsmann had ever used the instrument for operative purposes. If so, with what result.

Dr. C. C. RICE asked if the instrument might not be of service in difficult cases where a definite diagnosis with the ordinary mirror was not possible. It might be that combined with a general anæsthetic it would be of service.

The PRESIDENT said it was difficult to understand how a man should give such a name to an instrument as that given to the one possessed by Dr. Gleitsmann. The name was in no sense indicative of its character or employment.

Dr. GLEITSMANN, in closing the discussion on Kirstein's autoscope, said that the instrument would never



supersede the laryngeal mirror or take its place. Although we could overlook the posterior laryngeal wall and see the trachea better with the autoscope, we saw in the majority of cases the anterior commissure less satisfactorily. Besides, there was a fair proportion of patients who did not bear the insertion of the instrument very well, some who did not tolerate it at all, also others in whom the introduction and inspection were impossible for anatomical reasons. A subject as good as he had had in New York, when he had demonstrated the instrument in different medical societies, was not found frequently. He admitted it was not easily borne, as he had found by having it used on himself, but it had been of good service to him in some cases where he needed a good view of the larynx. Up to the present time he had not used it in operations. An instrument with a curve would hardly answer the purpose, as the inspection had to be made in a straight line and pressure on the teeth had to be avoided. Dr. Solis-Cohen was correct in saying that the name was a misnomer. He had had the same idea himself and had mentioned it to Dr. Kirstein, who had stated, "It is my child, and a father can name his child what he pleases."

(To be concluded.)

## Miscellany.

**The Serum Treatment and Hydrophobia.**—In an editorial on this subject in the *Indian Medical Record* for August 16th, the writer remarks that in hydrophobia we have to deal with a living organism as the cause, although, until we know more, we can only speak of the virus. In our recognized protective treatment, inoculation, he says, this virus is injected along with the altered nerve tissue in which it grew, and the question arises, Does the attenuated virus act like vaccine, or like the attenuated microbe in anthrax, or may it not be that protection is given by the nerve tissue itself, which is in some way changed by the infecting virus? Pasteur himself held that in his injections of emulsions of infected spinal cord there was a virulent and a "vaccinating" element, the first of which disappeared much more rapidly than the second, during the drying of the cord. Practically, the writer continues, no new light has been thrown on the subject since Pasteur said that, and that hypothesis is singularly supported now in the treatment with the serum of animals which have been inoculated.

Bouchard conferred immunity on animals by injecting the fluid obtained by filtration from rabies-infected nerve tissue. Babes and Lepp succeeded with the same, after sterilizing it at 176° F., and the first trial of a serum treatment was also reported by Babes and Lepp. (*Annales de l'Institut Pasteur*, 1889, p. 384.) These authors threw the blood of inoculated dogs, and, of four dogs they had so treated, two survived inoculation "par trépanation." Rabbits were treated in the same way, after direct inoculation, and all were seen to have a much longer inoculation period than the check animals.

Following on this, says the writer, the experiments of Babes and Cerchez appeared (*Annales de l'Institut Pasteur*, 1891, p. 629). They had further found that the blood of immunized dogs had power of neutralizing the virus *in vitro*, and, encouraged by their experiments,

they had even gone on and applied the treatment to man. For this purpose they used serum obtained from the immunized dog and from inoculated man himself. In twelve cases they had so treated, there was one death, and they thus proved a value in the method, but showed it to be inferior to that of Pasteur.

Next came Guido Tizzoni and Schwartz (*Riforma medica*, 1892), with conclusions in support of this. They showed that Babes's results were only the less convincing because of the animal he had worked on. They themselves had found that to neutralize the virus *in vitro*, the blood of "immune" rabbits was much more active than that of dogs, and that the power of any such serum varied with the degree of inoculation undergone by the animal providing it. They had seen that if an animal came to die after prolonged survival by virtue of treatment, the virus in its nerve tissue was not attenuated, but would kill other animals after the usual interval. From this they had reason to say that the serum protected by acting directly on the organism rather than on the virus itself. They had also tried to isolate the substance to which a serum owed this protecting power, and they had found that it did not dialyze, that it was precipitated by alcohol like an "albumin," was very soluble in glycerin like an "enzyme," and was precipitated by sulphate of magnesium like a "globulin." At all events they had found that the blood of an inoculated animal contained this immunizing substance, which, isolated and injected in doses of from eighteen to twenty-five cubic centimetres for five or six days, would protect animals from the disease.

After that Babes and Talasescu (*Annales de l'Institut Pasteur*, 1894, p. 434), going on to establish this use of a serum, drew attention to the fact that the serum of inoculated animals had most preventive power in animals of the same species; that the serum of immunized rabbits, for instance, was above all powerful in the rabbit, and that of the dog in the dog.

And now, says the writer, we have the report of Tizzoni and Centanni, who have succeeded in obtaining a most powerful antirabietic serum. According to them, their serum is furnished by sheep, which during twenty days are submitted to inoculations with the attenuated nervous tissue of rabid animals in the proportion of 0.75 gramme to each kilogramme of weight of the animal treated.

They declare that one injection of their serum gives an almost immediate immunity. As a preventive, they say, a drop and a half of the serum is sufficient to protect an animal of two kilogrammes in weight inoculated an hour afterward with virus from the dog. As a curative means, the subcutaneous inoculation of a cubic centimetre is said to suffice, even eight hours after direct infection, that is to say, in the middle of the period of incubation.

This serum, they also say, can be dried and kept in bottles away from the light, and, so kept, it will remain powerful for a considerable time.

**Ichthyol in the Treatment of Tuberculosis.**—In the *Journal of the American Medical Association* for September 12th we find an abstract from the *Journal de médecine de Paris* for August 9th in which the writer, Le Tanneur, describes his experiments with ichthyol in order to determine its antiseptic power. He states that absolute sterility is secured with a five-per-cent. solution, although the shape of the Koch bacillus is altered and its development much retarded with a two-per-cent. solu-



tion and even a weaker one. He administered it to his patients in capsules (Chiron's) which contained four grains each in doses of from four to twenty-four a day. No effect followed the administration of six or eight capsules. M. Le Tanneur began with two capsules and increased the number to twenty a day, taken three times a day, during the meals. There is no necessity, however, says the writer, for so much caution now, as none of the fifty patients treated ever showed any inconvenience from its use, and several patients with complicating diarrhoea and gastric disturbances were found to be cured by it. The cough was much improved owing to the liquefaction of the sputa produced by the ichthyol, which also cured the congestion of the bronchial tubes. The color of the expectorations changed from green to yellow, then to gray, and finally to the ordinary color of mucous secretions, a long stride toward recovery, even in the minor point that they ceased to cause gastric disturbances when swallowed. The dyspnoea was relieved at once by the liquefaction of the sputa and the decreased congestion, which rested the heart and raised the general tone of the system. Pain in the intercostal regions was also much relieved, probably for the same reason. The general health did not show improvement as soon as with hypodermic injections of guaiacol, but it arrived and progressed none the less surely, and the patients gained flesh much more than with guaiacol. Several gained from seven to eight pounds in the first month, others gained four pounds, and two thirds of the patients showed a marked increase in weight. The sweats also diminished, but apparently only as the general health improved, as this effect was not noticed so promptly as with creosote or guaiacol. The appetite was not unfavorably affected as is frequently the case when guaiacol is used, but it was improved and restored to normal in many cases.

Le Tanneur concludes by stating, says the writer, that, while ichthyol is by no means the long-sought specific for this terrible disease, yet great benefit is derived from its use as a substitute for creosote and guaiacol, when, as so often happens, the system has become so habituated to them that they fail to affect it. It is especially indicated in bronchial tuberculosis, which it most promptly relieves. Its disagreeable odor renders the use of the capsule imperative.

#### Itrol (Silver Citrate) in the Treatment of Gonorrhoea.

—Dr. Oscar Werler, of Berlin, contributed to the *Berliner klinische Wochenschrift*, 1896, No. 37, an article on the use of this agent, introduced by Credé, in the treatment of gonorrhoea, and he has been good enough to send us a reprint of his article. The salt is made in Heyden's chemical works, in Radebeul. Dr. Werler states that in the course of about six weeks, in private and public practice, he has used it in at least fifty cases of acute or chronic gonorrhoea, in three of gonorrhoeal urethritis in women, in gonorrhoeal inflammation of the vulvo-vaginal gland, and in a few cases of chronic cystitis, with very favorable results. It is used as an injection in the ordinary way, also in irrigations according to Diday's method and by a modification of Janet's procedure consisting in washing the entire urethra with a lukewarm solution of the silver salt by means of a large syringe. In acute gonorrhoea, he prescribes at the outset a very weak solution, one of 1 to 5,000, and gradually increases the strength. The injections may be used four times a day. The solution should be kept in a yellow bottle. It is important that it should be re-

sorted to without loss of time, before the gonococci have penetrated deep into the mucous membrane. Even in very weak solutions, silver nitrate is an energetic antiseptic, disinfectant, and germicide. He sums up as follows: Itrol has an intense gonococcus-destroying action; it is readily borne by the urethral mucous membrane, and causes no noteworthy irritation or increase of the inflammation; its action is deep-reaching, but without injury to the mucous membrane; it therefore meets all the requirements of an efficient remedy for gonorrhoea.

**Uranium Nitrate in the Treatment of Diabetes.**—In the September number of the *Therapeutic Gazette* we find an abstract of a paper read by Dr. Samuel West, of St. Bartholomew's Hospital, London, at the last meeting of the British Medical Association:

Further experience during the last twelve months, he said, had confirmed the general results which he had stated in a paper read before the association last year.

The effects of the drug were (1) to diminish the thirst, (2) to reduce the amount of urine passed, and (3) to reduce the percentage of sugar. Like all the other drugs used in the treatment of diabetes, uranium nitrate did not influence all cases alike favorably.

The clinical investigation of the action of drugs in diabetes mellitus was not by any means an easy one. It involved time and care to eliminate the many disturbing factors in the results. In hospital cases he had taken the patients into the ward and kept them for some time upon diabetic diet, until the benefits derived from dieting, rest, and freedom from care and fatigue had fully shown themselves. As soon as the patient appeared to have arrived at a condition of equilibrium, the drug was administered, in small doses at first, which were afterward gradually increased. In private practice the results were not so conclusive, and the difficulties to be surmounted were often considerable.

Reference was first made to one of the cases recorded in last year's paper, that of Mrs. W., who had an attack of severe influenza, during which time the drug had to be suspended. The percentage of sugar, which had been very slight, rose during the influenza to between four and five, subsequently falling back again to about four. She did not resume use of the drug, partly because she did not appreciate the difference between three and four per cent. of sugar and practically none, and because the disease had not been cured by the drug, and for another reason—because she thought the medicine upset her digestion from time to time. She was now passing about three or three and a half per cent. of sugar, but in other respects was fairly well.

Among the new cases to be recorded in the present year, there were none which presented such striking features as those which had been published last year; still, several showed the same general improvement, though not in the same degree.

Case I was an instance of acute diabetes in a woman of twenty-two years. On admission she was passing ten pints of urine containing eight per cent. of sugar. After she had been dieted for three weeks in the hospital the amount of urine was reduced to four pints and the percentage of sugar from eight to six; but during all this time there were great fluctuations in the amount of urine and in the percentage of sugar, such as were usually seen in bad cases of diabetes. After her being placed upon the use of uranium nitrate, the doses being gradually increased to five grains three times a day, the

percentage of sugar had been reduced to four, the patient had greatly improved and gained ten pounds in weight, and the irregular fluctuations referred to had entirely disappeared. On her leaving the hospital a short time afterward the percentage had been three and a half and the quantity of urine three and a half pints. She had gone home to the anxieties and work involved in the care of a family of small children, had been unable to continue the dieting, and had, he believed, died not long after.

In the second case, that of a woman of forty-four, the patient had been passing seven pints of urine and seven per cent. of sugar, with considerable fluctuations between a maximum of 8.3 per cent. and a minimum of 6.5. After her being dieted in the usual way, the percentage had fallen to 6.8, and then uranium nitrate had been given, with the result that the percentage fell to 4.6. She had greatly improved in the hospital, and had continued to take the drug some time after she left.

The third case was that of a young man, aged twenty-five, with acute diabetes of short duration. He was passing, on admission, seven pints of urine, with a percentage of between six and seven of sugar. Ordinary diet produced but little effect upon the quantity of urine and not much upon the percentage of sugar. Under the influence of the drug the percentage fell from six to between three and four. Ten grains of the drug were taken three times a day without any inconvenience, the appetite remaining good and the weight increasing. Toward the end of his time he was allowed to have from four to six ounces of bread or toast. The use of the drug was continued, but under this diet the percentage rose only to four and a half—that is to say, not as much as might have been expected. He had been taking the drug now for a long time as an out-patient, was considerably heavier than when he was in the hospital, and was able to do his work well; and, although under irregular conditions of diet the percentage of sugar was heavier, still he believed the drug was a necessity to him, and he was much better and abler for his work while taking it.

The fourth case was that of a man aged fifty—a bad case of only six months' duration. The urine was about five pints, with six per cent. of sugar. He was dieted as strictly as possible, but could not be got to do without bread. The uranium was increased up to ten grains three times a day, which he took without any inconvenience, and he gained several pounds in weight. Under the combined action of the drug and diet the quantity of urine was reduced about a pint, the specific gravity remaining much the same, and the percentage fell rather more than one. The most marked feature about this case was that the irregular fluctuations, which had been so marked soon after his admission into the hospital, entirely disappeared, and the quantity of urine and sugar became fairly constant.

The last case was that of a private patient, aged forty-one, who had been the subject of diabetes for about four years. In this case the drug had not proved efficient. The patient had never been able to take more than about three grains three times a day, and while he was taking the drug the lowest percentage of sugar reached was 2.3. As long as he was under observation the percentage averaged about three before he began to take the drug. Before he came under observation the analyses had been made very irregularly, but it was stated that the percentage had on occasions been lower than this and that on some days sugar had been entirely

absent. These statements, however, the author could not vouch for. The drug, in the doses given, seemed really to have little or no effect, and, as the digestion became somewhat disturbed, it ultimately had to be suspended. The failure of the drug in this case might be attributed, the author thought, in some degree to the idiosyncrasy of the patient, who was unable to take any but very small doses, and even those for only a brief period.

The general conclusions that might be drawn from these additional cases were the same as those the author had expressed last year, viz.: that we had in uranium nitrate a drug of considerable value in the treatment of diabetes mellitus, though, like all other drugs, it could not be relied upon to produce equally good results in all cases indiscriminately.

**The Tri-State Medical Society of Alabama, Georgia, and Tennessee** will hold its eighth annual meeting in Nashville on Tuesday, Wednesday, and Thursday, October 13th, 14th, and 15th, under the presidency of Dr. J. B. Murfree, of Murfreesboro, Tennessee, who will deliver an address on The Doctor of Medicine. The following is a partial list of the papers to be presented: Convulsions in Children treated with Large Doses of Morphine, by Dr. Y. L. Abernathy, of Hill City, Tenn. (to open the discussion, Dr. P. D. Sims and Dr. G. Manning Ellis); The Theory of Antipyretics, by Dr. P. L. Brouillette, of Huntsville, Ala. (to open the discussion, Dr. W. C. Bilbro, Dr. J. W. Duncan, and Dr. J. B. Cowan); Cystitis, Report of Cases, by Dr. D. S. Middleton, of Rising Fawn, Ga. (to open the discussion, Dr. G. A. Baxter and Dr. George S. Brown); A New Splint for Fractures of the Humerus below the Surgical Neck, by Dr. G. A. Baxter, of Chattanooga (to open the discussion, Dr. C. Holtzclaw and Dr. W. F. Westmoreland); Humphrey's Operation (Amputation of the Penis), with Presentation of a Patient, by Dr. C. Holtzclaw, of Chattanooga (to open the discussion, Dr. Duncan Eve and Dr. Y. L. Abernathy); Diseases of the Veru Montanum (Caput Gallinaginis), by Dr. W. Frank Glenn, of Nashville (to open the discussion, Dr. William S. Goldsmith and Dr. J. A. Goggans); Operations for Abscesses of the Liver, by Dr. W. C. Towns, of Chattanooga (to open the discussion, Dr. W. E. B. Davis, Dr. Richard Douglas, and Dr. W. D. Haggard, Jr.); Acute Pelvic Congestion, by Dr. Valentine Taliaferro, of Atlanta (to open the discussion, Dr. W. G. Bogart and Dr. George R. West); A Few Unique Cases of Abdominal Section, by Dr. J. A. Goggans, of Alexander City, Ala. (to open the discussion, Dr. R. M. Cunningham and Dr. Richard Douglas); The Treatment of Pus in the Pelvis, by Dr. W. E. B. Davis, of Birmingham, Ala. (to open the discussion, Dr. R. J. Trippe and Dr. J. B. S. Holmes); Vaginal Hysterectomy for Bilateral Suppurative Processes of the Uterine Annexa, by Dr. W. D. Haggard, Jr., of Nashville (to open the discussion, Dr. Richard Douglas and Dr. J. A. Goggans); Some Remarks on Syphilis, by Dr. W. F. Westmoreland, of Atlanta (to open the discussion, Dr. Richard Douglas and Dr. W. Frank Glenn); Observations on the Treatment of Specific and Non-specific Venereal Ulcers, by Dr. William S. Goldsmith, of Atlanta (to open the discussion, Dr. George S. Brown and Dr. W. Frank Glenn); Bacteriological Data in the Drainage of the Peritoneal Cavity, by Dr. George S. Brown, of Birmingham, Ala. (to open the discussion, Dr. R. M. Cunningham and Dr. W. F. Westmoreland); A Statistical Report of Some of



the More Recent Remedies used in the Treatment of Tuberculosis, and a Summary of Recent Preventive Methods of Value, by Dr. R. H. Hayes, of Union Springs, Ala. (to open the discussion, Dr. R. M. Cunningham, Dr. H. Berlin, and Dr. J. C. LeGrand); The Turkish Bath; its Therapeutic Indications, by Dr. Louise Eleanor Smith, of Chattanooga (to open the discussion, Dr. E. A. Cobleigh and Dr. Katherine R. Collins); Microscopical and Chemical Aids to Diagnosis, by Dr. Katherine R. Collins, of Atlanta (to open the discussion, Dr. Louise Eleanor Smith, Dr. W. C. Townes, and Dr. G. W. Drake); Some Obstetrical Complications, with Report of Cases, by Dr. R. R. Kime, of Atlanta (to open the discussion, Dr. W. G. Bogart, Dr. Richard Douglas, and Dr. W. D. Haggard, Jr.); Puerperal Eclampsia, by Dr. Seale Harris, of Union Springs, Ala., and Dr. J. E. George, of Rockwood, Tenn. (to open the discussion, Dr. R. R. Kime and Dr. R. M. Cunningham); Medicine—Hippocratic and Operative, by Dr. John P. Stewart, of Attalla, Ala. (to open the discussion, Dr. J. B. Cowan and Dr. Y. L. Abernathy); The Diseases and Treatment of the Accessory Sinuses of the Nose, by Dr. B. F. Travis, of Chattanooga (to open the discussion, Dr. N. C. Steele and Dr. G. C. Savage); Diseases of the Eye, by Dr. Alec Sterling, of Atlanta (to open the discussion, Dr. G. C. Savage and Dr. B. F. Travis); Diseases of the Eye, by Dr. J. M. Crawford, of Atlanta (to open the discussion, Dr. Alec Sterling and Dr. T. Hilliard Wood); Report of a Case of Bradycardia, by Dr. W. C. Bilbro, of Murfreesboro (to open the discussion, Dr. J. R. Rathmell and Dr. J. W. Duncan); The Woodbridge Treatment of Typhoid Fever, by Dr. J. W. Duncan (to open the discussion, Dr. J. B. Murfree and Dr. J. P. Stewart); The Treatment of Cancer of the Skin, by Dr. C. R. Achison, of Nashville (to open the discussion, Dr. E. A. Cobleigh and Dr. M. B. Hutchins); and a paper by Dr. G. C. Savage, of Nashville (to open the discussion, Dr. B. F. Travis and Dr. J. M. Crawford).

**The Necropsy of a Parachutist.**—Mr. James Huxley and Mr. W. Jones Greer, of Newport, furnish the following to the *British Medical Journal* for September 12th:

Before submitting the facts revealed by the post-mortem examination a brief history of the accident will be of interest. On the evening of July 21st a girl, aged fourteen years, took her seat and grasped the hoop of her parachute to make her first attempt as an aeronaut and parachutist. The balloon, with the girl and parachute, rapidly rose to a height of between six thousand and ten thousand feet. She then jumped clear of the balloon, and came down swiftly for a distance of about three hundred feet before the parachute opened; it righted itself with a jerk and began to spin round. The girl was noticed to throw her legs about a good deal; there was a considerable amount of wind at the time, and the girl was carried over the river, into which she descended and quickly disappeared. She was attached to the parachute by clips, similar to watch clips, passing from each shoulder. A Board of Trade lifebelt was carefully secured round her waist. The body was found in about three days detached from the parachute; the clips were uninjured.

**Post-mortem Examination.**—External examination: discoloration of forehead between eyes, a large bruise over front part of left side of head above and behind the ear, an abrasion of skin over back of right forearm. The body was well nourished, but not fully developed. Cutis

auserina present. Tongue swollen and indented by the teeth, mouth and pharynx contained mud and sand. On dissection of the vertebral column no dislocation or fracture was discovered. No fractures or dislocations discovered anywhere. Internal examination: Thorax: the heart and pericardium normal in appearance, the cavities of the heart were found perfectly empty, the valves and endocardium smooth and healthy; the lungs were inflated, the pleural surfaces of the left were adherent almost all over, on the right normal; diaphragm normal. On opening the trachea it was found to contain mud and sand, the small bronchial tubes were found to contain mud, sand, and froth. The oesophagus was empty. Abdomen: liver congested; on opening the stomach it was found perfectly empty; there was a small cicatrix on the posterior surface near the cardiac orifice.

On consideration of these facts we considered ourselves justified in coming to the conclusion that the girl was probably in a state of syncope when she reached the water, and that death was due to drowning.

**The Late Sister Superior of the New York Foundling Hospital.**—At a special meeting of the medical board, held on September 15th, action was taken as follows:

The medical board desire to pay tribute to the memory of Sister Mary Irene FitzGibbon, late superior of this institution. Several members of the board have served for more than twenty years, and have witnessed the growth of this work, its transfer to larger buildings, and its full development. They recognize the fact that the one person who organized, who procured friends and funds, who planned and built the one great foundling hospital of America was Sister M. Irene. Whatever other forces and agencies were assisting, it has been obvious to all that the central figure, the persuasive, tactful genius, the sweet-souled woman who led to this success was she to whom to-day the medical board pay this parting tribute.

Whereas, The medical board, in the death of Sister M. Irene, the sister superior of the hospital, have lost the first executive officer and long-tried friend—therefore be it

*Resolved*, That the board cause to be spread upon the minutes of its records these resolutions of appreciation and sorrow, incorporating the words "This board has lost the best friend any hospital board ever had."

*Resolved*, further, That the sympathy of the board be extended to the Reverend Mother Superior and the Sisterhood of the Sisters of Charity, also that a copy of these resolutions be forwarded to them and be published in the current medical periodicals.

J. LEWIS SMITH, M. D.,

[Signed] J. O'DWYER, M. D.,

GEORGE F. CROFT, M. D., *President of the Medical Board.*

**The New York Academy of Medicine.**—The special order of the meeting of Thursday, the 1st inst., was a paper entitled Practical Points regarding the Senile Insanities, with special reference to Prophylaxis and Management, by Dr. Ralph L. Parsons.

The next meeting of the Section in Paediatrics, on Thursday evening, the 8th inst., will be a "clinical session." The following topics are announced: Congenital Stenosis of the Pulmonary Valves; a Cardiac Case with Unusual Symptoms; Progress in the Treatment of Cases of Cretinism (by Dr. Henry Koplik); Progressive Muscular Atrophy; and Arthritis Deformans (by Dr. William L. Stowell).



## Original Communications.

### FURTHER NOTES ON THE PATHOLOGY AND TREATMENT OF GRAVES'S DISEASE.

By W. H. THOMSON, M. D., LL. D.,  
PROFESSOR OF THE PRACTICE OF MEDICINE  
IN THE NEW YORK UNIVERSITY.

(First Article)

In an article on Graves's disease, published in the *New York Medical Journal*, June 3, 1893, I advocated a view of its pathology, with treatment corresponding thereto, which I would wish to supplement now with the details of twelve other cases occurring since in my private practice, which seem to me to corroborate the positions then taken. In a disease whose pathology is so much controverted and in which hypotheses are so easily made, it seems worth while to let therapeutics have a place in suggesting the true nature of the complaint, if there seems to be any marked effect, as I think there is, upon the course of the disease by dealing with it according to certain principles of treatment. As we sometimes give mercury or potassium iodide to test a provisional diagnosis of an affection as probably due to syphilis, so I would now rely upon the results of a certain definite course of treatment to determine whether a given case be one of Graves's disease or not. I do so because, as stated in my former communication, I object to the name exophthalmic goitre, owing to its derivation from symptoms either not necessarily present in unquestionable cases of the affection, or of uncertain duration and degree when present. This name, therefore, operates to attract undue attention to certain non-essential, because variable, developments in the disease, and thus diverts inquiry from the more causative elements in its pathology. Moreover, for the same reason, this name often prevents a correct diagnosis, so that the disease may go on to a fatal termination without its nature being recognized, because the patients have neither exophthalmia nor goitre, while in others it is allowed to progress without the treatment which is so effective in the early stages, until the late development of engorgement of the thyroid gland reveals the true character of the affection.

I first attempted to show that the most constant elements in the course of Graves's disease are: 1. Digestive disturbance, culminating in severe cases in marked emaciation without fever, and in the majority with a tendency to persistent diarrhoea. In a large proportion these digestive disorders are peculiarly attended with a variety of sensory and motor symptoms in different parts of the body, such as neuralgic pains, disturbance of the special senses, local paralyses, etc. 2. Continuously rapid action of the heart, with dilatation and throbbing of the arteries. 3. Muscular tremor, both local and general, as

if from emotional excitement, not infrequently in advanced cases accompanied with a tendency to falling. 4. General nervousness, with occasional affection of the disposition and even of the mind. 5. Irritability of the bladder, especially at night, and in many cases with itching of the skin, profuse sweats, and other vasomotor symptoms. 6. Falling out of the hair. 7. Progressive weakness, often very noticeable in the voice, with a tendency to death from exhaustion of the heart owing to its long-continued overaction.

Now, in considering the pathology of this affection, it is certainly significant that all of these symptoms may be present and go on to a fatal termination without either exophthalmia or goitre being observed, or in some patients not till late in the course of the complaint. When this happens they are then pronounced to be cases of Graves's disease when they should have been recognized and treated as such long before. This surely is not a satisfactory position, either as regards pathology or anything else. If enlargement of the thyroid and protrusion of the eye must be in evidence ere we can pronounce a case to be one of Graves's disease, then, as regards pathology, we may properly turn our attention wholly to the thyroid gland as the subject for investigation, as we do with the kidney in Bright's disease. Then, for those who die after presenting the same general symptoms, but without goitre or exophthalmia, we must either class them as belonging to some other not yet named affection, or else frame theories how Graves's disease may exist without the thyroid being appreciably affected. But if so, when can we be sure whether a given case, no matter how serious, is a case of Graves's disease or not? The first case detailed in my previous communication fully illustrated this difficulty, as the patient never had any protrusion of the eyes or any enlargement of the thyroid until a short time before her death, when, on her third relapse, the goitre became quite pronounced. I have now another similar fatal case to report, which is as follows:

On November 30, 1893, I was asked to see Mrs. P., of Clifton Springs, N. Y. She was forty-four years of age, with a not very favorable family history, one brother at present suffering from Addison's disease. It was stated that she had been feeling ill and greatly debilitated all summer, though complaining most of all of extreme nervousness. She also noticed that "her hair was all coming out." For three weeks past she had grown much worse and had a constant diarrhoea with great irritability of the bladder, and a tendency to fall, from her knees suddenly giving way if she stood up. She had had intermittent albuminuria, which, as Dr. Beybie first showed, is common in Graves's disease. I examined her urine several times and found the specific gravity 1.020 to 1.025; of natural color, with no albumin and no casts. Temperature, normal; pulse, 120 to 130, weak. There was general throbbing of the arteries, most marked in the carotids and femorals. The most serious feature of her case, however, on my first visit, was recurrent attacks of uncontrollable vomiting along with the diar-

rhœa, which, on December 2d, could hardly be checked by any remedies.

*December 4th.*—The pulse became more rapid, and there was constant nausea with fits of fainting.

*7th.*—Stomach and bowels still very irritable. The patient now became wandering in her mind, with maniacal hallucinations and extremely restless. She could not be prevented from getting out of bed for the movement of the bowels, though when she did so her pulse would become very irregular. On December 10th, while doing so, she suddenly fainted and died.

Now, in this rapidly fatal case—in which, on account of the persistent vomiting and diarrhœa when she applied to me, no treatment of the disease, either dietetic or medicinal, was practicable—the symptoms are in complete accord with other histories published by various authors of acute Graves's disease, mania being particularly noted as of bad augury. But because her physician had never noticed in her either exophthalmia or goitre, he had never thought of her having Graves's disease, and afterward he wrote to me that he had little doubt that his own wife had died two years before from the same affection, as her symptoms were identical with Mrs. P.'s. As Gowers remarks, "If preponderant cardiac disturbance makes rapid progress, the patient may die before other symptoms (of the thyroid and the eyes) attain such a degree as to attract attention." We think that it is time that such symptoms should of themselves attract attention instead of our acting in the case of Graves's disease like a physician who would never suspect that a patient had Bright's disease unless he were markedly dropsical.

Interpreted aright, clinical evidence is as good as any other evidence in affording indications which bear upon pathology, and for that reason I would submit the following histories:

**CASE II.**—In this case I was myself misled at first by the insidious onset of the complaint and by the predominantly nervous symptoms of the patient, which I regarded as natural to her, as she belongs to a markedly neurotic family, one brother being insane as well as phthisical. I was first consulted by Miss M. W., aged forty-five years, for a peculiar pain occurring on the anterior aspect of both thighs at night. She had been troubled much with gastric disorder, which I was inclined to attribute to previous frequent attacks of hepatic colic, with jaundice, in 1891 and 1892. After a variable experience of the above-mentioned recurrent pains throughout the summer of 1893, she consulted me on December 9, 1893, for a constant throbbing in her left ear and for trembling of the right arm. This shakiness of the arm increased by January 6, 1894, with a sense of inward trembling as if she were frightened. By February 18th the tremor of the hand had so increased, especially on waking in the morning, that she had to postpone writing any letters till evening. Tremor had also extended to the muscles of the face, especially in beginning sentences when talking. Meantime the throbbing in the head was distracting, and she was greatly troubled with insomnia on that account. It was then that I first noticed that her pulse was beginning to be quite rapid, and ere long the continued rate

between 120 to 130 led me to regard the case as one of beginning Graves's disease. One peculiar symptom was complete and permanent anosmia, following several attacks of epistaxis, which had been preceded by severe headaches. These headaches would yield to nothing but drachm doses of fluid extract of ergot, and closely resembled her old attacks of migraine, from which she had been quite free for a number of years. To make a long story short, on March 17, 1896, the note is, Goitre at last! This enlargement of the thyroid, with some moderate protrusion of the eyes, developed quite rapidly, and, curiously enough, after the treatment for Graves's disease during nine months previously had markedly relieved her other troubles, the pulse having fallen to 82, the nocturnal neuralgias and the tremor having almost disappeared, and, what she most appreciated, the throbbing in the ears having ceased. This goitre (July, 1896) still remains, but varies so that she cares little about it.

In this case the order of development was first, gastric disturbance, then sensory and vasomotor symptoms, then tremor, then, after a year, tachycardia, and, lastly, after nearly three years, goitre and exophthalmia.

**CASE III.**—This case is of interest on account of the advanced stage of the disease before the treatment which I recommend was begun. Dr. J. C. Thompson, of Pittsburgh, Pa., having read my article which had been copied in the *American Ophthalmological Journal*, wrote to me that he had a brother who was suffering from Graves's disease, and asking for some further particulars about treatment. I answered his letter accordingly in November, 1893, but not hearing any further about the case, I wrote in March, 1896, to ask if he had tried the treatment, and with what results. I append his reply in full as a corroboration from an independent witness of the good results which I have found in practice from dealing with this affection as primarily due to the absorption of intestinal ptomaines.

"524 PENN AVENUE, PITTSBURGH, March 9, 1896.

"My brother at the time I wrote you had had the disease two years, having lived in Helena, Montana, at an altitude of four thousand five hundred feet above sea level, for most of the time. Some two months before I corresponded with you he had returned to his home in this city for treatment, being thoroughly broken down. His Helena physician thought he would not live a week longer if he remained in that city. On his return he went under treatment instituted by myself and also two other physicians of eminence in the regular profession. His weight had fallen off from a hundred and sixty-five to a hundred and twenty-five pounds; his pulse varied from 130 to 150; the thyroid gland on the right side was greatly enlarged; he perspired copiously on the slightest exertion; the hands trembled; the breathing was labored and audible; the voice weak and husky; his bowels were loose, there being five or six movements in twenty-four hours, and in connection with this condition he had a ravenous appetite; he was compelled to void urine three or four times a night; had an unnatural gaiety of manner, and, in brief, presented a perfect clinical picture of a typical case of Graves's disease. Under the treatment suggested by the two physicians spoken of and by myself, which consisted of heart sedatives and "tissue builders," he went from bad to worse steadily, until his weight was not over one



hundred pounds, and he could scarcely stand up. At this time I heard of the results secured by an eminent medical gentleman in New York, Dr. Rockwell, by the use of electricity in the disease (published in the *Medical Record*), and as a last extremity took my brother on to see this gentleman. He gave a guarded prognosis, and thought I had better take my brother home, which advice I followed. After this there was a rapid and constant decline in the condition of the patient, and none of the physicians who saw him thought there was any hope of his recovery. At this time I read the article you had written and commenced the line of treatment suggested at once. In my notes, taken at the time, I found that the following was the condition of the patient the evening before the dose of calomel was given, preliminary to the treatment to follow. Pulse at 8 p. m., 146; respirations, 30; temperature, 99°. Following the dose of calomel the pulse dropped to 104 the next morning, the lowest it had been since I had seen the case. The line of diet suggested by you in your article and letter was strictly followed, and an immediate and unmistakable improvement in all the symptoms followed. This was continuous, so that at the end of two months there was a gain of twenty pounds in weight, at the end of six months a gain of forty-six pounds, and corresponding improvement in all the other features of the case. The pulse generally remained about 104 to 110. At the end of six months the patient then went to southern California to escape the severe winter here, but, not having the chance to get the diet regularly, he did not improve much there. After a residence of five months there he returned here, and has continued the diet and treatment without variation or cessation ever since, so that at the end of two years and a half his condition, as represented by general signs, is, March 6th: Pulse, after exercise, 90; respirations, 22; temperature, normal; weight, one hundred and forty pounds; bowels regular, one movement in twenty-four hours and normal; skin congested about ears and neck but natural otherwise; appetite good; sleeps well; has no pains; wants to go into business; eyes still unduly prominent, but not so much exophthalmia as formerly. The von Graefe sign absent, except when excited. The thyroid enlargement is as great as ever; is comparatively strong; walked six miles the other day without undue fatigue. He is satisfied to continue the diet and treatment indefinitely, feeling certain that his life was saved by the treatment, as I do and all the other physicians who saw him."

CASE IV.—Miss L. W., aged thirty-five years, teacher in a public school of this city; called first on May 22, 1893. Her aspect then was like one in the last stage of phthisis, as regards extreme emaciation and anæmia. Eyes somewhat prominent, but no von Graefe or Stellwag symptoms. Thyroid uniformly but not considerably enlarged. Hair much thinned; much tremor of the hands; voice tremulous and weak; ataxia just beginning, as she had had her first fall that day. Heart action tumultuous but without murmur. Pulse, 152; has been greatly troubled with diarrhoea for nearly two years, and latterly with much bladder irritability, also itching of the skin and persistent insomnia. Meantime she has become so weak that she feels as if she might die at any moment. The patient was with difficulty removed to her father's house in the country, where she followed out the line of treatment recommended.

July 19th.—A letter from her mother states that she is greatly improved from the dying condition she seemed

in upon her arrival at home. Her diarrhoea is checked, and her sleep is much better.

August 19th.—The patient was able to write herself; movement of the bowels still too frequent.

November 17th.—Writes that she is steadily gaining in flesh and strength, but that the goitre and exophthalmia still persist; bowels move three or four times a day, but the movements are not diarrhoeal; the itching continues, but she sleeps well.

February 3, 22, and March 22, 1894.—Slow but continued improvement, except that she has returns of old migrainous symptoms, and the vesical irritability continues.

May 18th.—She returned to the city and presents a striking contrast to her appearance a year before, being now quite full-faced and with a natural healthy appearance but for her moderate exophthalmia. Pulse, 124; rather high tension. Bowels move twice a day, but are not loose. Had to have her hair cut, as it was falling out so.

June 29th.—Still feels that she is gaining, but pulse, 126; high tension. Bowels, however, inclined to looseness if she modifies her diet at all; itching still troublesome.

September 22d.—Patient able to resume her duties at school. Looks well. Pulse, 114. On August 2d had a bad fall, previously having for two days felt a weakness in the knees. Through October and November continued to hold her own in much the same condition.

January 5, 1895.—Better; but can not change her diet without soon having a return of her old symptoms. Through the winter attended well to her school duties.

May 18th.—For the first time pulse down to 100.

June 18th.—Gaining in flesh and strength; pulse, 88; bowels now inclined to constipation.

October 18th.—Has felt practically well all summer and since resuming teaching.

February 22, 1896.—Had some relapse of diarrhoea and rise in the pulse, with return of bladder irritability, from taking fruit.

On resuming her milk diet and taking the medicines she was soon better again.

June 20th.—Patient considers herself about well.

CASE V.—Miss M. P., aged twenty-three years, May 27, 1893, daughter of a wealthy manufacturer in northern New York. For some six months has had a great deal of palpitation, along with thyroid enlargement. Pulse, 146; tremor moderate in the hands; strong mitral murmur present; very nervous and inclined to insomnia. A singular feature in this case was that she had complete Bell's paralysis of the right facial nerve, preceding by a year her goitrous symptoms, but it passed off in a few weeks; but, after recovering entirely from the symptoms of Graves's disease in 1894, she came again, September 10, 1895, with completely developed paralysis of the left facial nerve, which persisted in spite of persevering treatment for nearly four months, the last note on January 25, 1896, being: "The only sign left is a raising of the lip when she closes the eye; also, she can not whistle." This patient often suffered from migraine. No rheumatic history nor chorea; mitral murmur still (1896) present, otherwise health good.

CASE VI.—Patrick S., aged twenty-four years, gardener, son of healthy Irish parents; first came under treatment April, 1894. Had always been healthy and of temperate habits. For no reasons he could account for he began to feel excessively nervous, tremulous, and troubled with insomnia and palpitation. He was also



becoming prematurely bald, and so weak that he could hardly stand. Emaciation was also becoming very pronounced. Pulse, 120 to 140; moderate exophthalmia, and very variable goitre. He improved greatly under treatment until October, 1894, when he had a severe relapse, caused by emotion on the death of his mother. After that, by rest and being more attentive to his diet and treatment, he has gained flesh again. Present state, June, 1896, nearly well; still some goitre.

CASE VII.—Mrs. B., wife of a physician. Her husband reports to me on February 13, 1896, that I prescribed for her for Graves's disease five years ago. She then had pronounced exophthalmia but no thyroid enlargement, nor ever has had any. She was ordered then to take the fermented milk and scarcely any medicine. The tremor of the hands at that time was so great that she could not handle a tumbler of water. She lost her hair to a great degree, and she fell in weight from one hundred and thirty to ninety-five pounds. She has adhered mainly to this diet, and is now much better and has regained her normal weight. I found, however, that her pulse was 114, and so put her on intestinal antiseptics.

CASE VIII.—Miss C., aged thirty-five years. This case is interesting from the fact that I treated her for epilepsy in 1881, the attacks then having an average frequency of twice a month for seven years previously. Her family (all brothers) are highly neurotic and sufferers from gastric dyspepsia without inflammatory symptoms, one of them also so affected with right-handed tremor that he can not sign checks. After entire freedom from epilepsy for fifteen years, she first consulted me April 23, 1894, with a story of a year's affection of palpitation and rapid heart action, accompanied with a sense of great prostration and muscular weakness, often being suddenly awakened in the night with violent throbbing. Muscular tremor well marked, especially in the hands. Pulse, 116; no cardiac murmur; no exophthalmia, but some slight enlargement of the thyroid. Diagnosis: incipient Graves's disease, and treatment prescribed accordingly.

May 7th.—On the whole better, but has now a tendency to diarrhoea. Whenever this begins her heart is at once affected. Throughout June these bowel attacks would occasionally recur and each time be accompanied with palpitation and nervousness. One of these attacks in July much alarmed her, as threatening a return of her old epilepsy, for she had an attack of blindness come on with numbness of the left side of the nose, tongue, and left arm. Average pulse, 100 to 110. During the rest of the summer of 1894 these irregular attacks of fainting sensations, sometimes accompanied with tenesmus without diarrhoea, continued, but she gradually improved, the pulse slowly falling till last record, February 5, 1896, when it stood at 78, the patient then feeling quite well. The connection between overaction of the heart and intestinal derangement is particularly noticeable in this case.

That migrainous and, in some cases, epileptic attacks also are dependent upon absorption of intestinal ptomaines has long been my belief, and has led to measures of treatment which have seemed to me to be very advantageous. Previous liability to migraine has also been noted more often in the histories of patients with Graves's disease, in my experience, than any one other antecedent.

CASE IX.—Annie H., aged eighteen years, delicate girl, looking quite anæmic. Applied for treatment May 23, 1895. Had lately been losing flesh and was much troubled with her loss of hair. Very nervous and weak, and inclined to frequent attacks of syncope. Pulse, 124.

June 3d.—Felt better and stronger, and had had only one "faint spell" since beginning treatment a week ago. Pulse, 126.

17th.—Better; pulse, 104.

July 8th.—Feeling much improved. Pulse, 100. Though this patient had neither exophthalmia nor goitre when she came on May 23d, during the past week the thyroid enlarged so for four days that she could not fasten her collar around it, but in a few days it again wholly subsided. By September 1st her condition was so good that she ceased attendance, having gained in flesh and color. Pulse, normal, 80.

CASE X.—Miss B., first consulted me February 8, 1894, for daily severe headaches with pain in the eyes, always worse in the morning upon waking, suggesting, therefore, that use of the eyes did not cause, or, at least, aggravate the headaches. She was gradually relieved of the headaches by intestinal antiseptics. She stated that her mother, a maternal aunt, and her maternal grandfather were "martyrs to rheumatism." This patient ceased taking remedies and attendance until, finding the pains in the eyes return, she consulted Dr. Karl Koller of this city, who, April 7, 1896, sent her to me with a note suggesting that she had incipient Graves's disease. I found the pulse 136. She ascribed her relapse to mental causes. Upon putting her upon the treatment for Graves's disease the notes are:

April 25th.—Much improved, but has had an attack of diarrhoea.

May 22d.—Pulse, 96; feels weak, but general symptoms better; headaches less frequent, and sleep much improved.

CASE XI.—Mrs. B., aged fifty-five years, from Massachusetts, March 13, 1895. About three years ago she noticed that her thyroid began to enlarge. This has varied from time to time ever since. Before this came on, according to her statement, she had chronic diarrhoea for four years. Has never had noticeable exophthalmia. She ascribes her trouble to prolonged domestic worry. She is extremely nervous; very weak and tremulous in her voice; weakness of knees much complained of; great tremor of the hands, especially on waking in the morning, as in Case II. Has been steadily emaciating. Pulse, 126; no cardiac murmur. She returned home with directions for treatment, but I received no report from her till June 8, 1896, when she wrote that she was much improved. The goitre still persists, but she considered herself as steadily gaining.

CASE XII.—This case may readily be disputed as one of Graves's disease at all, but when the totality of the symptoms is taken into account, with finally the test of treatment, I am inclined to so regard it. Mr. A. B. S., a lawyer, aged forty-two years; applied first October 28, 1895; light complexion; fairly well nourished; never had syphilis or gonorrhoea. In May, 1894, without any antecedent symptoms of the kind, he was suddenly taken with nausea and gastric distress, which have continued ever since in spite of treatment by a number of our eminent city physicians. His symptoms are an almost continuous nausea, with an ill-defined sense of distress referred to the stomach; no aching or heavy pain radiating anywhere; not made worse by eat-

ing or when the stomach is empty, except that he always feels worse on waking in the morning; tongue always coated deep brown. He can lie as well on either side; no symptoms of gastritis or of tumor on palpation; has had his stomach frequently washed out without any mucus being brought away; no movable kidney; knee-jerks normal, no ataxia or shooting pains. He has been all along sensible of a diarrhoeal sensation in the bowels after movements, even when they seemed to be normal; but, on the other hand, he frequently suffers from apparently causeless diarrhoea. The cardiac feature of his case is that his pulse on his first visit was 130, and during the subsequent twenty-three visits, entered in my note-book till July 2, 1896, it has steadily kept between 94, the lowest, to 140. His other symptoms have been a singular sense of weakness in his arms and legs, but not in the back, with tingling and numbness in both extremities. These symptoms sometimes seem to take the place of his gastric troubles. They are also sometimes accompanied by a sense of fear. Always feels better in the afternoon. His chief complaint, however, is that every few days he feels so prostrated by his various feelings that he can not apply himself to business from his sense of general weakness, both physical and mental. This patient, as stated, had been treated already most perseveringly for his dyspeptic symptoms by others, and for three months I prescribed for his gastro-intestinal complaints as best I knew how, without better success than my predecessors. The continued frequency of his pulse, however, with a normal temperature, without any renal trouble, no cardiac murmur or arrhythmia, and no inflammatory symptoms present in any organ, led me, finally, on February 7, 1896, to put him on the treatment for Graves's disease, although he presented no other symptoms of that complaint, except his anomalous sensations, his feeling of weakness, and his tachycardia. His eyes are somewhat prominent, but not unduly so. From the above date he reported February 14th, March 6th, March 14th, April 20th, May 5th, June 2d, July 2d, a steady improvement. No more trouble with either stomach or bowels. Lately has felt strong enough to ride a bicycle. Pulse, however, at last date, 126.

I have other cases to report when a sufficient lapse of time allows the effects of treatment to be properly tested. This disease runs such a varying course in different patients that it is very desirable that their subsequent history should be obtained as far as practicable. Thus six of the eight patients whose histories are given in my former article in 1893 are still free from a return of their former symptoms, except the fourth in the list, who is yet not wholly well, and shows considerable exophthalmia. She, however, has not been under my care in the interval.

#### ÆTIOLOGY OF DEVIATIONS, SPURS, AND RIDGES OF THE NASAL SÆPTUM.\*

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It is with considerable hesitation that I present for your consideration some thoughts upon the ætiology of

deviations, spurs, and ridges of the nasal sæptum, especially since the subject has been so ably, clearly, and fully discussed by different members of this association on several different occasions. After considerable study of the subject, however, I have concluded that some points have been overlooked which it is necessary to consider in order to explain why deviations of the sæptum are so frequent in their occurrence, and often so exceedingly peculiar as regards their form, extent, and location.

Deflections of the nasal sæptum are ascribed to a variety of different causes. These may be divided into predisposing and exciting causes.

I. **PREDISPOSING CAUSES.**—The two main predisposing causes are diathesis and racial characteristics.

1. *Diathesis.*—That diathesis is an important predisposing cause of deviations of the sæptum may almost be said to be self-evident, since it is a fact of clinical observation, verified by nearly all observers, that deflections of the nasal sæptum are exceedingly common among persons suffering from the strumous, syphilitic, tubercular, or rachitic diathesis. Loewy\* and Loewenberg† have emphasized the influence of rickets as a predisposing cause, perhaps laying more stress upon this factor than any other authors; and Harrison Allen‡ calls attention to the influence of cretinism in the production of deformities of the nasal chambers.

2. *Racial Characteristics.*—The part that racial characteristics play in the production of deviated septa is an exceedingly interesting topic of study. All writers on this subject are unanimous in showing that deviations of the sæptum are vastly more frequent among the civilized than among the savage races. For instance, among the Europeans and Americans the percentage varies from sixty to eighty per cent., while among the Mongolians, the Africans, and the Polynesians the deviation is found in but about twenty per cent. The increase in frequency of deviation of the sæptum among the civilized, and particularly among the Europeans and Americans, is ascribed to two causes: First, to the increase in the cranial development and the enlargement of the facial angle; and, second, to the admixture of the different races.

Ecker and Lissauer\* have demonstrated that under the influence of an increased development of the cranial mass the schematic line formed by the cranial vertebræ has a tendency to curve in proportion as we advance in the evolutionary transformation. The sæptum, accordingly, describes a movement of rotation, from above downward, from backward forward, around the body of the sphenoid taken as a centre.

Thus it will readily be seen that as this process of

\* *Berliner klinische Wochenschrift*, 1886, No. 47.

† *Zeitschrift für Ohrenheilkunde*, Wiesbaden, 1883, Bd. xiii, S. 11.

‡ *New York Medical Journal*, 1895, vol. lxi, p. 139.

\* *Annales des malades de l'oreille et du larynx*, 1892, tome xviii, p. 782.

\* Read before the American Laryngological Association at its eighteenth annual congress.



rotation takes place, the angle formed between the frontal, the superior maxillary, and the sphenoid bones for the accommodation of the sæptum becomes proportionately greater, and as the posterior portion of this angle widens, the anterior portion becomes correspondingly narrowed, which gives less room for the sæptum, particularly the anterior portion. This would account for the seeming redundancy of the sæptum in many cases, there being apparently insufficient room for its accommodation, requiring it to become more or less incurvated or wrinkled, especially the cartilaginous portion.

These studies have been further pursued by Potiquet,\* whose researches were conducted on four hundred skulls in the museum in Paris, from which he shows that the nasal sæptum is more prone to lateral curvature as the angle of the face is more inflected in its antero-posterior direction, and that this angle is more and more inflected in an ascending series as we rise from the anthropoid to the European male.

The cause of the rarity of deflections of the sæptum among the less civilized races is believed to be due to the purity of these races. Among the purer races the features of the people are so much alike that it is with the utmost difficulty that a skilled physiognomist is enabled to distinguish between individuals without a close acquaintance with them. And thus we find that among the Mongolians, the Malays, the Arabs, the Africans, the Polynesians, and the American Indians the shape of the sæptum and the interior of the nose vary as little as does the external appearance of the nose.

Further studies in this direction show that an increase in the frequency of deviations of the sæptum corresponds very closely with the degree of admixture of the different races. This admixture in the more civilized countries, occurring largely as the result of conquest and of immigration, has been taking place from the earliest times, until modern Europe and America of to-day represent this admixture of the races in the highest degree.

The evolutionary changes that have taken place by this admixture are also readily seen in heterogeneity of the features of our people, as will be observed from the fact that no two persons will be found in whom all the features very closely resemble one another. Therefore, as Potiquet observes, "it would not be extravagant to say that a man has only exceptionally the sæptum which belongs to him."

Martin † observes that these anomalies all seem to be more clearly explained by the blending of different racial types than by evolutionary or devolutionary changes from a prognathous to an orthognathous type.

Delavan,‡ in his most instructive article on the *Étiol-*

ogy of Deflections of the Nasal Sæptum, also emphasizes the greater prevalence of deviated septa among the civilized than among savage races, and also points out the fact that the aquiline type of nose, as illustrated in the Slav, the Hebrew, and the ancient Roman,\* is particularly apt to be associated with deflections. A notable exception to this observation is the fact that the North American Indian, while possessing an aquiline nose, rarely has deflection of the sæptum. This is to be explained by the fact that the Indian belongs to a primitive and pure race, and also by their higher physical development on account of their outdoor life, and, as has been pointed out by Catlin,† by the habit among the Indian mothers of closing the mouths of their children and compelling them to breathe entirely through their noses from their earliest infancy, which conduces to a proper development of the nose.

II. EXCITING CAUSES.—The exciting causes of sæptal deflection may be either internal or external.

1. As internal exciting causes we have (a) defective development, (b) diseases of the sæptum, and (c) diseases of other portions of the nose.

(a) *Defective Development.*—In studying deflections of the osseous and cartilaginous sæptum, it is important to call attention to some points in the anatomy of the sæptum. It will be remembered that the nasal sæptum is composed practically of two bones, the perpendicular plate of the ethmoid and the vomer; and one cartilage, the triangular cartilage of the nose. The perpendicular plate of the ethmoid bone is a thin flattened lamella, which descends from the under surface of the cribriform plate, or the horizontal portion of the ethmoid bone, forming part of the anterior fossa of the base of the skull. The lower border of the posterior half articulates with the vomer. The vomer is a single bone situated vertically at the back part of the nasal fossæ. At an early period it consists of two laminæ separated by a very considerable interval, and inclosing between them a plate of cartilage which is prolonged forward to form the remainder or cartilaginous portion of the sæptum. Ossification commences in the vomer at about the same period as in the vertebræ (about the sixth or eighth week of foetal life), but is not complete until after puberty; and the perpendicular plate does not begin to ossify until about the first year after birth. The coalescence of the laminæ takes place from behind forward, beginning about the third year. The cartilage of the sæptum, extending forward from between the two plates of the vomer, is somewhat triangular in form, thicker at its margins than at its centre, and completes the separation between the

\* *Étude critique sur l'étiologie des déviations de la cloison nasale* *Méd. moderne*, Paris, 1892, tome iii, p. 153.

† *Journal of the American Medical Association*, 1894, vol. xxiii, p. 491.

‡ *Transactions of the American Laryngological Association*, 1888, vol. ix, p. 202.

\* In the anthropological collection of the Peabody Museum, at Cambridge, Mass., is a cabinet containing eighteen well-preserved specimens of skulls taken from ancient Roman tombs. Delavan found that among these there was hardly a single instance in which the sæptum was straight, while in several of them the degree of deflection was excessive, and far beyond that usually seen.—*Ibid. cit.*, p. 205.

† *The Breath of Life*, Reprint, New York, 1872, p. 16.



nasal fossæ in front. Bearing in mind this fact that the vomer is composed of two parallel laminae which do not fully coalesce until after puberty—and in some instances do not coalesce at all\*—we can most readily see the effect that would be occasioned by the slightest imperfect development of either of these plates. Hypernutrition of one lamina would cause the other lamina to be pushed out of its normal line of growth; and, conversely, any lack of full development of one lamina would occasion corresponding deviation. Any such deflection in the vomer would naturally be accentuated in the cartilage of the sæptum. The probability of this view that the deflections result from defective development of the plates of the vomer is increased when we take into account the fact that scarcely if ever do we find two bones with precisely the same degree of development.

Morell Mackenzie † evidently alludes to this fact when he says: "It is not impossible that the deflection may result from the fact that ossification of the sæptum proceeds from centres situated in two different bones, and that these deposits of ossific matter do not subsequently meet in the same plane."

The fact that ossification begins in the posterior end of the sæptum and that coalescence takes place from behind forward, explains why that end is rarely observed to be markedly deflected. It is the middle and anterior portions that most commonly become deviated as a result of the abnormal conditions that are so frequently found in children after the third or fourth year. The unequal development of the plates of the vomer and the resulting deflection of the sæptum produced by these abnormal conditions become accentuated as the development of the child takes place. Welcker ‡ has not observed deflections of the sæptum before the fourth year, while Zuckerkandl\* states that he has not observed them in children under seven years of age. Anton, however, has shown that these deviations may be congenital by the examination of fifty-six cadavers of newborn infants, in which he found deviations in nine cases (equal to sixteen per cent.).

The peculiar forms which deflections of the sæptum may assume can readily be explained in the light of the fact that the different plates develop unequally. Unequal development of the separate plates may take place in a vertical direction or in a horizontal direction.

\* In the *Philadelphia Medical News* for January, 1882, Lefferts described a case of double sæptum in a man aged twenty-five. The upper half of the posterior edge of the partition was divided in the vertical direction into two distinct portions, which were separated wide enough to admit the end of a lead pencil between them. The space thus inclosed was triangular in shape, the widest part being above, and the mucous membrane covering it had a natural appearance. Baumgarten, of Budapest, describes a case of a double nose with two cartilaginous septa and three nares.—*Rev. de lar., d'otol., etc.*, 1894, tome xiv, p. 10.

† *Diseases of the Throat and Nose*, 1884, vol. ii, p. 434.

‡ *Die Asymmetrie der Nase und des Nasen-Skelets*, Stuttgart, 1882.

\* *Anatomie der Nasenhöhle*, Bd. i, S. 102, zweite Auflage, 1893.

Thus, if we have a vertical overgrowth of the lamina on one side or a defective growth on the other, we may have simple deflection of the sæptum toward the side of greater development. Again, if we have an overgrowth in one plate in an anterior posterior direction, and of the other plate in a vertical direction, we may have the peculiar conformation of the sæptum called the sigmoid deflection, which naturally suggests the idea of redundancy of sæptal growth, as was first observed by Morgagni.\* Chassaignac † has also advocated this view.

Ingals ‡ has emphasized the importance of local malnutrition as an ætiological factor in sæptal deflection, but, reversing the sequence of cause and effect, maintains that the "deflection of the sæptum usually commences in the cartilaginous portion, and that the flexion of the vomer, which often exists, is of mechanical origin, due to firm articulation of this bone with the cartilage." Others, among whom we may mention Delavan,\* J. N. Mackenzie, † Sedziak, ‡ and Rosenthal, § have, in a general way, considered defective development as an important factor in the production of sæptal deflection.

(b) *Diseases of the Sæptum*.—Hypernutrition of either side in excess of the other may readily be produced by diseases of the sæptum itself. An abnormal condition of the nasal sæptum, which may act as the exciting cause of deviation, is chronic disease of the tissues covering the sæptum, usually associated with more or less disease of other parts of the nasal passages. A condition of hypernutrition of the sæptum may be caused by the engorgement of the cavernous tissues which cover the lower posterior portion of the sæptum as well as the turbinated bodies. This cavernous tissue, as is well known, is so sensitive to irritation as to become readily engorged by any external or internal irritant. Therefore, when this tissue is subjected to frequent irritation, diseased action sooner or later takes place, resulting in chronic distention of the vessels. This hypernutrition tends to an increased growth of the structures, and, as Greville Macdonald † observes, results in a tendency to a vertical as well as a horizontal overgrowth. As, vertically, the sæptum lies between fixed limits, any increase in that direction must result in its being bent to one side or the other.

Supernutrition and a diseased condition of the sæptum may also result in spurs and ridges along the sæptum.

\* *De sed. et caus. morb.*, Lugd. Batav., 1767, epist. xiv, art. 16, vol. i, p. 207.

† *Bulletin de la Société de chirurgie*, 1851-'52, tome ii, p. 253.

‡ *Transactions of the American Laryngological Association*, 1882, vol. iv, p. 61.

\* *Op. cit.*, p. 207.

† *Transactions of the American Laryngological Association*, 1887, vol. ix, p. 211.

‡ *Journal of Laryngology and Rhinology*, 1891, vol. v, p. 94.

§ *Thèse de Paris*, 1888.

† *Diseases of the Nose*, London, 1892, p. 195.

These spurs and ridges are usually found located along the articular surfaces of the septum; that is, (1) along the line of junction of the vomer with the superior maxilla, and (2) along the line of junction of the anterior border of the vomer with the triangular cartilage of the septum and the lower posterior part of the perpendicular plate of the ethmoid, and (3) along the line of junction of the anterior border of the ethmoid with the triangular cartilage. The exostoses may be unilateral or bilateral. The ridges along the junctions of the vomer with the triangular cartilage and with the superior maxilla are more often bilateral than the ridges elsewhere. When occurring upon one side of the septum alone, they are frequently looked upon as constituting a deviation of the septum, but they are by no means a condition of deflection. Inflammatory states may not only be excited by a hypernutrition of the part, but may also result from inflammation set up by reason of external influences producing a condition which may be looked upon as an arthritis. These excrescences may indeed be the direct cause of the deflection of the septum, by reason of the pressure which the turbinated bodies may exert upon them, forcing them and the septum over to the opposite side. This condition, however, is not common; for these outgrowths and ridges are usually found upon the projecting or prominent portion of the angle of deflection, and may therefore be looked upon as the result of the condition that has been the primary cause of the deviation.

(c) *Diseases of Other Portions of the Nose.*—Malformation of the superior maxilla and a very small and highly arched hard palate have so frequently been observed to be associated with deflection of the septum as to make it necessary to regard them as an exciting cause. This view was first suggested by Trendelenburg,\* but especial attention was directed to it by Jarvis,† who says that of a number of instances of highly arched palate, in every case deflection of the septum was found. He also states that this condition was hereditary in a number of cases in which he had traced it through several generations.

Welcker‡ has pointed out that a deflected septum is frequently associated with more or less disproportionate development of the whole face. The orbits may lie on different planes, resulting, as a matter of course, in various ocular troubles, and the superior maxilla and alveolar processes may be developed unequally, which may possibly have resulted, as Bosworth§ suggests, from scoliosis of the whole face.

In nearly all cases of deviation of the septum we find the turbinated body on the concave side of the septum very greatly hypertrophied, whereas the turbinated body

on the convex side of the septum may be comparatively small, or at least not in a condition of hypertrophy. An interesting question has arisen in connection with this fact as to which is the cause and which is the effect. Baumgarten\* and some others maintain that the hypertrophy of the turbinated body has been the exciting cause of the deviation, forcing the septum over to the opposite side, whereas others believe that the hypertrophied turbinated body is the result of the septum being deflected from the median line. This latter view is, to my mind, the correct one, for the reason that we usually find the turbinated body on the concave side of the septum sufficiently hypertrophied to fill the space, while not hypertrophied enough to press against the septum. On the convex side, however, we find the septum pressing closely upon the turbinated body. If the deflection of the septum had been the result of the pressure, the pressure found upon the convex side would have been sufficient to force the septum into the median line, or to the opposite side. I believe it is false, however, to hold that the deflection has had nothing to do with the hypertrophy of the turbinated body. The hypernutrition has been caused by the irritation consequent upon the excessive amount of air passing through the unobstructed passage, producing vascularity and hypernutrition of the part. Hypertrophy may be a compensation of Nature for this extra work. It is a well-known fact of observation that when the respired air passes through one nostril only, sooner or later irritation of this nostril is set up. In normal respiration the current of air that passes through the nostrils is equally divided, but when the respiratory current passes through one side only it causes dryness of the passage, irritates the nostril, and there is ultimately more or less diseased action. It is a rule that should be invariably observed that no matter how easily respiration may be carried on through one nostril, the other nostril should be opened so that an equal amount of air may pass through it, although it may not be necessary to make the passage as wide or free as the other nostril, which may be abnormally large. It is almost invariably the case that we find the most disease in the nostril through which the greater current of air passes, and very frequently we see an aggravated form of so-called nasal catarrh in the free nostril very rapidly become ameliorated by establishing free respiration through the other side.

The obstruction of the anterior portion of the nasal passage when the other portion of the passage remains free is undoubtedly sometimes the cause of deviations of the septum, although not the main cause, as it is believed to be by Collier.† The direct effect of obstruction of the anterior portion of the nasal passage during respiration is to cause more or less rarefaction of the

\* Cited by Schaus, *Archiv für klin. Chirurgie*, Bd. xxxv, Heft 1, 1887.

† *Medical Record*, vol. xxvii, p. 284.

‡ *Loc. cit.*

§ *Diseases of the Nose and Throat*, 1889, vol. i, p. 288.

\* Ueber die Ursachen der Verbiegungen der Nasensecheidewand. *Deutsche med. Woch.*, 1886, Bd. xiii, S. 373.

† *Journal of Laryngology and Rhinology*, vol. v, 1891, p. 501.

air in that nasal chamber, which, acting upon the normally thin and easily yielding septum, particularly in children, will cause a bending of the septum toward the nasal chamber in which the air becomes rarefied, or, in other words, in which the normal atmospheric pressure is reduced by the inspiratory current. The effect of obstruction of the nostrils in the production of deformities of the face is very clearly shown by Ziem\* in his experiments of artificially blocking one nostril in young animals. In every case there was defective development of the side of the face and skull on the side of the obstructed nostril.

Obstruction of the anterior portion of the nasal chamber may be caused by temporary excessive vascularity and turgescence of the turbinated tissue of the anterior portion of the turbinated body, or by a chronic condition of turgescence and hypertrophy of this tissue. Or the obstruction may be the result of foreign growths, or from synechia, the result of previous ulceration. It may also be due to dislocation of the triangular cartilage, occluding the nostril. A flattened condition of the ala of the nose may also occlude the nostril. Such flattened condition may be due either to the destruction of the shield cartilage of the ala, or to a condition of paralysis of the dilator muscles of the nostril. This latter point has been emphasized by Collier.†

2. *External Exciting Causes.*—The main external exciting cause of deviation of the septum, particularly of the anterior portion, is traumatism. The vast number of cases of deflection in which a distinct history of trauma can be obtained leaves but little to be desired in the way of proof on this point. Traumatism is considered the main cause of deviation of the nasal septum by Bosworth,‡ Geuzmer,\* Ziem,|| Bresgen,<sup>Δ</sup> Schaeffer,◇ Woakes,† Walsham,‡ Voltolini,‡ Stoker,\*\* Moure,†† Rosenthal,‡‡ and Lennox Browne.\*\*

Traumatism may produce deviation of the septum in a variety of ways. It may result either in direct dislocation of the triangular cartilage at its point of attachment with the perpendicular plate of the ethmoid and the vomer, and at the attachment of the perpendicular plate of the ethmoid with the vomer, or the attachment of the triangular cartilage and the vomer with the superior maxilla. The dislocation may take place singly,

or there may be more or less disturbance or dislocation of all these attachments at the same time, should the external forces be sufficient. These dislocations are more apt to take place in children than in adults, owing to the incompleteness of the attachments during childhood. The dislocation, however, may be slight in the child at first, but as the growth of the septum proceeds, the deflection becomes correspondingly accentuated.

Dislocation of the triangular cartilage is, however, one of the most frequent deformities of the septum as a result of traumatism, owing to the frequency of slight blows upon the nose that are not of sufficient force to cause disturbance of the attachment of the perpendicular plate of the ethmoid with the vomer, and also owing to the fact that the triangular cartilage is much the thinnest portion of the septum, and is most easily disturbed by external causes. In many cases there may be no history of traumatism, since the deflection may have resulted from an accident that has long since been entirely forgotten, but which was, nevertheless, the primary cause, as can be readily seen from the overlapping of the parts, which could not easily have resulted from any other cause. The probability that these deviations result from traumatism, though there may be no history of such accident, is heightened by the fact that these cases are found three or four times more frequently in boys than in girls, and in men than in women, the masculine sex being more exposed to injuries of the nose than the feminine. In such cases of deviation, one of the best proofs that the deflection is the result of traumatism is the fact that we almost invariably find a great amount of callus thrown out on the convex side of the angle of the two articulated surfaces, whereas if the ridge had been thrown out as the result of disease of the articulated surfaces, it would be unilateral.

Among other external influences which are believed to be the cause of deviation, habitually blowing the nose with the same hand has been mentioned by Morell Mackenzie.\* A diseased condition of the interior of one nostril, producing a hypersecretion from that nostril, and a person habitually closing the opposite nostril by pressure with the thumb or finger in order to clear the passage of the discharge, and the habit of inserting the finger into one nostril to remove scabs, crusts, etc., would also have a like effect. This does not of itself seem a sufficient cause for the production of a deformity, although it is quite probable that deflection of the end of the nose quite frequently results from this cause, since misshaped noses in the young may be molded into symmetrical form, as was the custom of the ancient Persians with babes of the royal blood, for no man was allowed to sit upon the throne who had a crooked or deformed nose.†

On considering the constant and extreme variations

\* *Diseases of the Throat and Nose*, vol. ii, p. 434.

† Mackenzie, *Transactions of the American Laryngological Association*, 1885, vol. vi, p. 107.

\* *Monatsschrift für Ohrenheilkunde*, 1883, Nos. 2, 3, 4, and 5.

† *Op. cit.*, p. 506.

‡ *New York Medical Record*, 1887, vol. xxxi, p. 115.

◇ *Revue de chirurgie*, 1887, No. 12.

|| *Allgemeine med. Centralzeitung*, Nos. 20, 23, 1886.

Δ *Wiener medicinische Presse*, 1887, Bd. xxviii, S. 237.

◇ *Chir. Erfahrungen in der Rhin. und Lar.*, 1885, Wiesbaden.

‡ *Journal of Laryngology and Rhinology*, 1890, vol. iv, p. 437.

‡ *Ibid.*, p. 439.

‡ *Die Krankheiten der Nase*, 1888, S. 108.

\* *Deviation of the Nasal Septum*, 1888, London.

†† *Journal of Laryngology and Rhinology*, 1890, vol. iv, p. 495.

‡‡ *Sur les déformations de la cloison du nez et leurs traitements chirurgicaux*, 1888, Paris.

\*\* *The Throat and Nose and their Diseases*, p. 587, 1890, London.



which take place in the composite races in the development of the osseous structures, and particularly those of the face and skull, it is not surprising that these variations should occur quite as frequently in the nasal septum as in other parts. One can not be more forcibly impressed by the frequency of these variations than by examining the various cavities contained within the skull, and particularly the accessory sinuses of the nose. In the examination of any number of skulls no two cavities in the same or in different skulls will be found to be of exactly the same shape, size, and dimensions. Therefore, the great variations that take place in the size and shape of the nasal cavities and the septum can not be wondered at.

From the present status of our knowledge regarding the ætiology of deflections of the nasal septum we may draw the following conclusions:

1. That deviations of the septum are produced by a variety of causes operating upon different persons; and that upon the same person several different influences may be operating at the same time.

2. That heredity plays a very important part as a predisposing cause, not only by the dyscrasias which may be transmitted, but by the blending of different races in the composite type, which brings about an infinite variation in the conformation of the osseous and cartilaginous structures.

3. That the three local causes most frequently producing deviation, spurs, and ridges of the septum are trauma, nasal obstruction, and unequal growth of the different component parts of the vomer. The last-mentioned cause is itself produced mainly by local malnutrition or diseased conditions of the structures of the nasal passages, inducing an unequal development of the two sides of the septum, which causes a bulging or bending to the side of greatest development. The fact that the vomer is composed of two laminae, separated by a plate of fibro-cartilage which is continued forward to form the triangular cartilage of the nose, readily explains how this unequal development takes place.

## NOTES ON METHYL VIOLET: ITS USES IN MALIGNANT DISEASES.\*

By J. GRIFFITH DAVIS, M.D.

METHYL VIOLET is a product of coal tar, introduced to the profession as a therapeutic agent in the latter half of 1890 on the recommendation of Professor Stilling, of Strassburg, who, in association with Dr. J. Wortman, carried out a series of researches on the antibacterial properties of the aniline dyes. I do not propose to go into a discussion of the other methylenecompounds at this time. I am indebted to Mr. F. W. Fink, of the firm of Lehn & Fink, New York, for the principal

knowledge I have gained of the chemistry of the drug. The methyl violet (C. P.) which I have used was also secured from this firm.

This remedy seems to be a mixture of two or more compounds, classed as methyl violets. In 1890 it was copyrighted under the name of pyoctanin. One half to four parts in ten thousand was recommended in general surgery.

Early in the history of these compounds reports were made which were conflicting, some being for and some against them. Under the head of pyoctanin, the products are variable and confusing. I find many persons who speak of pyoctanin *blue* and pyoctanin *violet* as though they were the same, while they are widely different. Hence the necessity for the use of a definite compound from the same group—"methyl violet," specially prepared for medicinal use under that designation (Lehn & Fink, New York).

I have found the literature on the subject meagre indeed. (Through the kindness of Mr. Fink, I received a few statements which had been translated from the German.) Therefore it is quite probable that notes on the subject, with reports of cases, at this time, will prove not alone interesting but useful to those who have not had the opportunity to study the merits of this valuable preparation.

My first knowledge of the drug was through Dr. Elizabeth Snyder, of the Woman's Hospital, Philadelphia. She spoke enthusiastically of its action on pus in an ophthalmic case which she treated in her clinic.

At that time (1891) I was connected with a clinic in Brooklyn. I secured a supply of the drug and prepared a fifteen-per-cent. solution and resolved to use it in the first suitable case that presented itself. As I had no precedent to follow, I felt that I must proceed slowly and carefully.

The first case that came with pus as a prominent factor was that of a little mulatto girl about nine years of age. She had the worst pair of inflamed eyes that I ever saw. Pus was oozing from the corners of the eyes. She was very anæmic and exceedingly nervous. Her eyes were swollen and completely shut (she had to be led into the room); she had a marked strumous diathesis; also had sores on the scalp; she could not voluntarily open the eyes. When I asked her to look at me, she took her fingers to lift the lids and peered at me as though looking from under a cover. The whole conjunctiva was very highly inflamed and congested. I truly felt incompetent to cope with such a case. The child's history was a very sad one. She had been afflicted for two years, being unable to attend school.

They had visited specialists while they had means; then a round of charitable institutions, until, as the mother said, they were completely discouraged. Their poverty precluding the trial of other specialists, I determined to do all I could for the child.

The presence of so much pus at once suggested to my mind the methyl violet. My recollection of its use was a five-per-cent. solution. I reduced my fifteen-per-cent. solution to five per cent. and dropped one drop of this in each eye. The child screamed, the treatment

\* Read before the Alumnae Association of the Woman's Medical College of Pennsylvania, May 8, 1896.

seemed so severe. But I thought she was more frightened than hurt, and insisted upon this being repeated night and morning for one week. I also directed hygienic and dietetic measures as well. Stated as briefly as possible, the additional treatment consisted in administering an alternative tonic made up in the drug department of the dispensary. I do not now recall the exact formula, but made it to meet the indications in the case. Bottle baths were ordered on alternate nights, the sweating process to last thirty minutes. She was then bathed in hot water with ammonia in it, so that the sebaceous material would be softened and all the effete matter removed from the pores of the skin, thus restoring its normal function. On the principle taught in my college days—*i. e.*, "All *débris* thus removed was so much vital force conserved to the internal organs" (the skin doing vicarious work for the heart, the lungs, and the kidneys)—I asked the child's mother to rub her vigorously but lightly to restore an equilibrium to the circulation; then to oil her from head to foot, using all she could absorb. I also prescribed an eye wash to soothe the eyes after the methyl violet had done its work. It was as follows:

R Boric acid,	} each.....	1 drachm :
Sodium chloride,		
Boiling water.....		1 pint;
Tincture of camphor.....		1 drachm.

M. Filter and use freely, allowing the compress of clean linen to remain on the eyes during sleep.

I instructed the mother, an unusually intelligent colored woman, to keep up this line of treatment for a week. The following Monday (one week later) she presented herself at the clinic. I shall never forget my surprise. Such a complete metamorphosis had taken place I could scarcely be made to believe that it was the same girl. All the swelling and inflammation had disappeared. She looked out of her eyes as well as any child. The mother said "it was like a miracle," as any one who saw the case would say. I ordered the drops continued once a day for another week, for fear there might be pus cells in embryo lurking about. Constitutional treatment was also continued for months (I think iodide of iron was prescribed at that time).

In 1893 the father brought the child to my New York office to let me see her. She never had any return of the trouble, and could attend school constantly.

Case II came to the clinic a few days later—a boy of ten or twelve years, with an abscess of the axilla, extending out on the chest. One of the surgeons operated, evacuating a large amount of pus. I suggested washing out the cavity with a two-per-cent. solution of methyl violet to destroy the pyogenic membrane. This was done. The boy, although a very strumous individual, made a very prompt recovery. He was given constitutional treatment also. Having achieved such gratifying results in these cases, I grew enthusiastic over the remedy and used it wherever pus was present.

Case III was that of a woman with malignant disease of the uterus. This case is taken from my books. The previous ones had to be reported from memory, as the record is inaccessible at this time. Mrs. J. M. F., aged sixty-three years; good family history; had borne several children; attributed the cause of her trouble to the birth of a large child, when an extensive laceration of the cervix occurred. It was never repaired. In April, 1892, her daughter appealed to me in the most impassioned manner to do something to ease her mother and prolong her life. For several years she had been

treated in different private hospitals. During this period of masterful inactivity, according to my mind, the golden opportunity of a radical operation was lost.

Later the woman was in Dr. W. Gill Wylie's hospital. He frankly told her the treatment could only be palliative, as the disease had progressed too far for operative interference. He curetted and removed a large amount of pus and *débris*. This arrested the ravages of the disease for a short time. In April, 1892, her daughter who was a patient of mine, brought her to me. As soon as I examined her I felt that there was little hope. I advised the hospital, thinking that with later knowledge and improved technic and devices a hysterectomy might be performed that would prolong her life. The family was desirous of anything that promised relief, so I had a consultation with Dr. H. Marion-Sims. He agreed with me in diagnosis, but with Dr. Wylie in prognosis, that only temporary relief could be given. The patient entered St. Elizabeth's Hospital in May, 1892. Dr. Sims also curetted and removed a large amount of pus and *débris*. He told her husband he did not see how she could live beyond a few weeks.

The woman remained in the hospital about a fortnight. She grew gradually worse after her return home. But her relatives again appealed to me to do something for her. On July 26, 1892 (two months after Dr. Sims operated), I began to give her regular treatment. The case was a desperate one. I only hoped to do what I could to alleviate her sufferings and aid her to die easily. So I began to treat her three times a week; had her douched night and morning with the peroxide of hydrogen solution (forty per cent.). The exudation or secretion from the carcinoma, flowing over the mucous surfaces, was very irritating. It seemed to eat like fire. In this case I began at once with a fifteen-per-cent. solution in ninety-five per cent. alcohol. Cleansing the sores, and then painting them with the freshly prepared solution (it smarted severely) till the spirits evaporated, I followed this with flexible colloidion, which had twenty-five per cent. of castor oil added to the usual formula, as this left a softer surface. This was followed with a covering of compound stearate of zinc, with ichthyol (as prepared by McKesson & Robbins); I used it with an insufflator. This was for its mechanical action, to prevent the moisture of the secretions from acting on the basic treatment. As I was working in the dark, so to speak, I had to formulate my methods to meet the indications in each case as they arose.

In this particular case I felt that I was not reaching the disease where it was doing its worst work—*i. e.*, in the endometrium. I went to a druggist and ordered some soft gelatin suppositories (three grains each)—"pyoctanin violet." I inserted one with curved forceps in one cornu, as nearly as I could imagine, of the uterus at one *séance* and in the corresponding cornu of the opposite side at the next one. I did the best I could in this blind fashion. The patient soon began to manifest great improvement. Pain began to subside very promptly. In less than three months there was a decided amelioration of symptoms—no pus, no pain, no odor. The treatment became routine—twice in a week. Her general health improved so much that she could go out to walk, went to places of amusement, and enjoyed her family. The disease seemed in abeyance for the time being. The woman took new hope and courage. It was not until April, 1893, that the disease began to show progress again, and then only in a general malaise and want of appetite. In May following I found



that the upper portion of the bladder was invaded, producing a vesico-vaginal fistula. In the erect posture she suffered no inconvenience; in the recumbent, urine constantly leaked away. She was naturally a very neat woman, and this manifestation distressed her exceedingly and wore upon her nervous system. In the first part of June she failed rapidly. She complained only of uneasiness. She died very peacefully on June 18, 1893, living about eleven months after I began the use of the methyl violet. Throughout there was never a return of pus, pain, or odor. One of the nurses who attended this case said she would not believe it was a malignant disease, were it not that so many physicians had pronounced it such.

My success in the instance cited above made me anxious to try it on a case where I could reach every part of the growth. I expressed a wish to that effect to several of my acquaintances.

Mrs. C., an old friend and patient living in Brooklyn, knew a mulatto woman who worked for her occasionally. She noticed that the woman was failing in health and made inquiries as to the cause. She told Mrs. C. that she was about to enter the hospital for a second operation upon her left breast. Mrs. C., knowing how much I wanted such a case, promptly suggested that she come to New York and give me at least three weeks' trial. She acceded to the proposition.

CASE IV.—The case presents the following history: M. H., aged twenty-seven years, unmarried; menstruated at fifteen years of age; the flow regular and profuse; no early history of leucorrhœa, although it exists now; has a marked strumous diathesis. At eighteen years of age a small tumor developed above the nipple of the left mammary gland. It grew slowly until she was twenty-one years old. It was removed by a well-known surgeon of Brooklyn. At that time it was considered non-malignant. It remained well for five years. Then the patient began to feel pain and itching at the lower portion of the cicatrix, corresponding to the place where it originally began growing. A small pimple made its appearance. Some one advised a domestic remedy—a poultice of plantain leaves—which she used. A patch of white pimples, as she described them, resulted. They became confluent and formed a crust. The pain was not so great as a peculiar itching and stinging, which was constant. It began to spread; it was raised and indurated. She consulted physicians and underwent all manner of treatment. The sore utterly refused to heal. Operative measures were advised and urged, as it was rapidly approaching the axilla.

The present appearance and history suggested the squamous variety of epithelial carcinoma. The patient said she would be insane if she did not soon get relief; could not sleep day or night. The only relief she had was to take a piece of coarse muslin and rub the sore with it. She remarked that by this process she peeled off a handful of stuff that looked like dandruff. I began with a fifteen-per-cent. solution of methyl violet in ninety-five per cent. alcohol; used a soft brush and painted in every nook and crevice of the growth with this freshly prepared solution; followed it with flexible collodion, as in the previous case. The wound was then dressed with marine lint covered with absorbent cotton. The woman was instructed not to touch it until the

night previous to coming to me again (four days later). I also gave her an alterative tonic, as follows:

R Scherf's syrup of hydriodic acid.... 3 ounces;  
Compound syrup of manganese.... 4 "  
Elixir of iodobromide of calcium.... 1 ounce.

Mix. Sig.: A teaspoonful in a wineglassful of water an hour and a half after meals.

Chronic constipation was a marked symptom in this case. For this condition I ordered compound licorice powder, a teaspoonful on retiring, or enough to secure one full evacuation of the bowels each day. The patient had worked very hard up to May, 1893, but has not been able to do much since (now January, 1894). To cleanse the sore, I ordered it sponged gently with very hot water containing lysol, a drachm to the pint. This was always done on the night previous to her visit to my office. It is not necessary to enter into the details of each day's treatment. The above-named course was followed closely until March 6, 1894, when the most remarkable result yet occurred. The night before, when she removed the dressing, the whole mass came with it, leaving a clean surface, with here and there a sulcus, where it had eaten in deeper. It gave the impression of a jelly mold. There was still slight itching where it started, although the woman said she felt better than for many months previous. She still continues the treatment with methyl violet (ten per cent.). On March 20, 1894, I began to treat the patient once a week; advised her to keep up the alterative tonic for at least one year. The skin grows more nearly normal at each visit. She was now growing anxious to return to work. On April 27, 1894, I discharged the case, asking her to return at once should she have any of the old symptoms—and to return, anyhow, in one year to let me see her condition, which she did in April, 1895. I have heard recently, through the lady who sent her, that she still remains well.

It is nearly five years since I began the use of this drug, and have always met with success. One must exercise judgment as to the strength of the solution and its preparation, which must be in small quantities, kept well corked and in the dark.

CASE V.—Mr. J. H. V. B., aged fifty-six years; occupation, farmer; never very robust. When about twenty years of age he noticed a small white pimple or growth on his right cheek, near the angle of the nose. It grew very slowly until he was fifty-four years old. It was then struck with a piece of wood. From that time on, it grew rapidly; felt sore, with shooting, stinging pains. His general health began to fail, as he could get no sound sleep day or night; it even hurt him to chew his food. He consulted physicians and tried different remedies in every direction, with no abatement of symptoms in any way. The growth was now about an inch and a half in diameter at its base and gave the appearance of a discolored English walnut. When this patient came to me (about July 1, 1895), I told him I had never attempted the removal of a similar growth, but I agreed to do the best I could for him. I began at once with a fifteen-per-cent. solution of methyl violet, with the happy result of relieving the pain, or stinging and itching, within two weeks. The growth presented a smooth, hard surface. I covered it with flexible collodion (the same as in the previous cases). It began to diminish slowly for four months, at the expiration of which time a piece as large as a hazelnut dropped out. Two weeks later, another similar piece fell out, and about two weeks after this I tied off the remaining piece, disclos-



ing the feeder, a large artery. It bled profusely. When I got the hæmorrhage stopped I went right on treating the base, following this with flexible collodion; also had him use alternative treatment, both vegetable and mineral, alternating. Notwithstanding my inability to see him for weeks at a time, he kept on improving steadily. At this writing (April 16, 1896), he reports himself in better health than ever before. I have kept him supplied with small quantities of methyl violet (ten-per-cent. solution) to apply at home once a day. After the removal of the pieces mentioned above, there was a raised, indurated border, as is usual in such cases. This I treated with a compound of iodine and phenol (one part of the first to two of the last) to hasten the absorption of this tissue. The vegetable alternative was a decoction of burdock root and black alder bark, which the patient gathered on his own farm. The mineral alternative was Parke, Davis, & Co.'s hæmatic hypophosphites (two parts) and Scherf's syrup of hydriodic acid (one part). He takes this an hour and a half after meals, so that the starch in digestion may not interfere with the iodine in the preparation. This combination seems to do good service where there is a strumous diathesis.

CASE VI.—M. D. L., aged sixty-two years, robust and healthy as a young man. His health was impaired while connected with the army in 1862-'63. After his return from the war, he noticed a small black scab, about the size of a pinhead, on his right cheek. He thought possibly it was a grain of powder, and had his wife try to pick it out with a needle. It was situated about an inch below the angle of the eye with the nose, and remained in this condition for over twenty-five years, being scarcely noticeable. About five years ago the wound began to itch and sting; so much so, he could not keep his hands off it. It began to spread. The patient consulted physicians all around the country. He was applying for a pension. The examining board of the Pension Bureau pronounced it malignant; told him the only thing to do was to go to some hospital and have it cut out, with the assurance that he would, in all probability, lose his eye. He shrank from the alternative and let it alone.

The sight of the eye was so much impaired he could not read with it. His health failed. He came to my Keyport office in July, 1895. At that time the inflammation was fully three inches in diameter, involving the eye, a large part of the cheek, and up to the ridge of the nose. In the centre of this area of inflammation was a deep sore, an inch and a half one way and an inch another, with a deep hole in the middle of it. It was a very vicious-looking sore indeed. The conjunctiva was injected and inflamed; it looked like red flannel. So far, he could get nothing to allay the serious symptoms. In his own words, "the more he attempted to put on, the worse it grew." The itching and stinging were unbearable. His appetite being gone, and getting but little sleep, he was thoroughly discouraged. I certainly entered this case with serious misgivings. But I began with a ten-per-cent. solution of methyl violet. The first week the patient said the treatment was like lifting him into a new world, as the pain and itching began to subside at once. He had to come from the country, too, and sometimes several weeks intervened between his visits. He was supplied with fresh solutions from time to time, so he could have it applied once a day. Vegetable and mineral alternatives were also prescribed, as in previous cases, with the same result. On April 16, 1896, all the inflammation, except in the

central sore, had disappeared from the nose, eye, and cheek. It is so much improved that the hole in the centre is filled to the level of the face. The sore could be covered with a silver ten-cent piece. Vision is restored also. There was an elevated, indurated border surrounding it, reminding one of the crater of an extinct volcano. Within two months, by the use of the iodinated phenol, the cicatricial tissue has become very nearly absorbed. The patient says he has better health now than for thirty years previous, having gained about ten pounds in flesh. I am still treating the case, with every prospect of success.

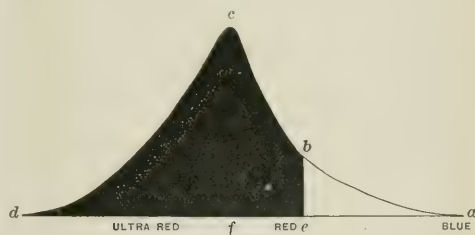
Since the foregoing reports were written, the mulatto woman, who had squamous epithelial carcinoma, made her second annual visit. She reports herself still well, never having had any return of the trouble in her breast since I discharged her in April, 1894.

## HEAT WAVES AND GLARE.

By S. BUSBY ALLEN, M. D.,

ASSISTANT SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL.

In studying the effect of glare upon the eye I have been led to believe that not the light but the heat rays do most harm. A beam of light consists of two distinct kinds of waves—light waves and dark or heat waves. The force of energy of the dark waves in the incandescent light—*e. g.*, electric light or Welsbach light—is seven times that of the light waves. This is a greater proportion than that found in sunlight. All objects in Nature emit these dark waves continually. The ultra-violet, violet, and indigo rays give off very little heat, but from blue to red they steadily increase, and the distance of the line *a*, *b*, *c*, *d* from the line *a*, *b* is the measure of this energy; *e*, *b* is the measure of the hottest



of the visible rays. Pushing the thermo-electric pile toward *d*, the curve bounds up, till at *f* it reaches *c*, and then it falls more rapidly than it ascended. These ultra-red or obscure rays can be focused. We can not see the focus, but it will char itself out of white paper, or it will burn anything that is inflammable; or, focused on a sheet of thin platinum, it will raise it to incandescence, thus changing dark to visible rays.

In Professor Tyndall's famous experiment these rays were focused on the retina, a plate of metal with an aperture of the size of the pupil being used to protect the

surrounding parts from the intolerable heat. Describing this experiment, Professor Tyndall says: "Removing the eye, but permitting the plate of metal to remain, a sheet of platinum foil was placed in the position occupied by the retina a moment before; the platinum became red hot. No sensible damage was done to the eye by the experiment. No impression of light was produced; the optic nerve was not even conscious of heat." It was afterward found by experiments upon the eye of an ox that eighteen per cent. of the rays reached the retina, the rest being absorbed by the aqueous and vitreous. Why did not this intense energy, which raised platinum to a red heat, destroy the cornea at least, supposing the aqueous to be sufficient to protect the rest of the optic tract? The explanation lies in the briefness of the exposure. The cornea was protected by the tears, just the same as the wetted finger is protected when plunged in molten metal and quickly withdrawn. A prolonged exposure would have utterly destroyed the eye. It is this prolonged but less intense exposure that affects the eye in glare. Many persons exposed to glare by the nature of their occupation are obliged to quit work altogether, or to lessen their hours of work; or, more's the pity, to work on and suffer, thereby setting in operation a vicious chain that may possibly end in atrophy of the optic nerve. These patients, even after their errors of refraction, if they have any, have been corrected and their conjunctivitis has been treated, and the irritating light rays, and also many of the heat rays, cut off with tinted glasses, still continue to suffer. In vain the ophthalmologist resorts to tonics. Nothing will suffice save rest or change of occupation.

The Bessemer steel employees, who are exposed to intense glare, wear a huge lens composed of three glasses—the centre a dirty chocolate, sandwiched between a green and a blue; still they suffer intensely from the heat waves.

In an article entitled *Asthenopia due to Glare*, published in the last number of *The Manhattan Eye and Ear Hospital Reports*, I expressed my surprise that the only pathological change found in these cases was "a redness of the disc and retina to the nasal side of the disc." One would naturally look to the layer secreting the visual purple for morbid effects if light waves were the sole or chief cause. If, however, the heat waves play the most important rôle, this is the part of the fundus that would suffer most, as the bridge of the nose would act as an efficient screen to protect, to a great extent, the temporal side. If a beam of light be passed through a glass tube containing pure water, or, what is far better, alum dissolved in water, the heat rays are mostly cut off, while the solution is transparent to light rays. Here, then, I think we have the means to relieve our sufferers from glare. I am having Mr. Georgan, the optician, construct for me glasses containing this solution between two plane surfaces of London smoked. These glasses will not be over bulky or heavy, nor will they

be very expensive, and can be worn not only to relieve those who suffer but also as a prophylactic. It would also be very easy to devise a ground-glass shade with hollow walls containing this solution and place them over the electric lights. A little wider knowledge of irritating and soothing colors would effect changes that would prevent much of the glare from which we now suffer. I spent the heated term at a place most irritating to the eye. A land company had built the roads of oyster shells, which had been ground to a fine white powder. These roads must have reflected over eighty per cent. of the light thrown upon their surfaces. After spending the morning on the roads, the beach, or the water, to enter the dining room was a great relief. The walls and ceilings were done in oil—surfaces rough. The walls, a chocolate-brown, with those uneven surfaces reflected less than ten per cent. of the light thrown upon them. The ceiling, a pale yellow, reflected about forty per cent. The broad blue cornices joining them would absorb all but twenty-five per cent. Guests at the six o'clock meal would call attention to "how short the days have grown!" and call for artificial light. How different are the walls of most of our business places and our homes! The walls' plane surfaces either reflect too much light or, with papers in colors too pronounced, irritate and fatigue the eye. In general terms it may be said that yellow, red, and violet rays irritate, while blue, green, and brown, if not too pronounced, are soothing. Sharp contrasts of light and shade, as too sharply defined shadows when writing or drawing, are very fatiguing. This is why artists love the north lights—the edges of the shadows are not so sharp and the outlines of things are softened.

141 EAST EIGHTY-NINTH STREET.

## MULTIPLE FIBROIDS OF UTERUS, WITH HYDROSALPINX. HYSTERECTOMY BY SEGOND'S METHOD.

BY WILLIAM C. WOOD, M. D.,

GYNECOLOGIST TO NATHAN LITFAUER HOSPITAL, GLOVERSVILLE, N. Y.

Mrs. S., aged forty-one years, married, has had two children; weighs one hundred and sixty-nine pounds, but is very anæmic and weak. Six years ago had a frightful hæmorrhage, and after that flowed too much and too often at her periods. Three years ago thinks she had a miscarriage, and since has flowed almost continuously, getting sometimes less than a week's interval. She has been so bad at times that the vagina had to be tamponed. She says that she had a polypus removed eighteen years ago and was quite well after that until the hæmorrhage of six years since.

Lately she has had severe pains in the lower part of her abdomen, through the ovaries, and in the uterus, and with the constant flowing has become so miserable that she desires an operation.

On examination I found the uterus hypertrophied and very hard, the tubes enlarged and painful, while the cervix had an unpleasant appearance, but there was



no discharge and no odor. My diagnosis was salpingitis and fibroid tumor of the uterus, with a fear that the cervical induration might become in time malignant. I advised a total ablation of the uterus and appendages as the surest and safest method of cure, to which she readily consented, life in her present condition, she said, not being worth living.

Operation on August 10th at Nathan Littauer Hospital. The vagina was first scrubbed with green soap, applied with a sterilized paint brush, and thoroughly irrigated with sterilized water. The cervix was grasped between two traction forceps, one on each lateral half, and strong traction made. With the blunt scissors a circular incision was made around the cervix, and the uterus separated from the bladder by the finger and Douglas's *cul-de-sac* opened. Short-bite forceps were applied to each uterine artery and the cervix cut away from the broad ligament on each side, as high up as the beaks of the forceps went. I then split the cervix with the scissors vertically and removed each half, taking care, of course, to advance my traction forceps so as never to lose my grip on the uterus. This not removing enough of the uterus, in my opinion, to make it rotate easily, the procedure was repeated, and two more portions removed.

Then introducing my scissors so that one blade lay in the uterine cavity and the other in the utero-vesical space, I slowly split the anterior wall, following up the cutting with successive applications of the traction forceps until the fundus was reached, when it rolled easily forward and presented at the vulva. Clamps were then applied to each tube and the uterus cut away.

The right tube was a hydrosalpinx about an inch in diameter; this with the ovary was drawn down and a clamp applied, when the appendages were cut off. The left tube and ovary, both much enlarged, were similarly treated, the wound sponged out, and iodoform gauze packed about the beaks of the forceps and in the vagina. The whole operation, thanks to the excellent help rendered by the *Sécond* patterns of instruments, occupied but twenty minutes.

The examination of the specimen removed showed the presence of a thickened tube and ovary on the left, and a hydrosalpinx on the right side, while the uterus contained a submucous fibroid two inches and a half in diameter, and two smaller fibroids about three fourths of an inch thick, these last being buried in the uterine wall.

The cervix was indurated and ulcerated, having to the eye the appearance of a beginning epithelial growth. The clamps were removed at the end of forty-eight hours, and the patient has since progressed rapidly, and is to-day, twelve days after the operation, sitting up part of the time, with pulse and temperature normal, and having but a slight discharge from the vagina.

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 6th inst., the following papers were read: The Semi-centennial of Anæsthesia, by Dr. Roswell Park; and Anæsthesia as a Factor in Surgical Diseases, by Dr. Woods Hutchinson. Dr. R. R. Ross gave an exhibition of the Röntgen-ray apparatus with demonstrations.

**Syracuse University.**—The new building of the College of Medicine was formally opened on Monday evening, the 5th inst. The chancellor of the university, the Rev. Dr. Day, made the opening remarks, which were followed by a response by the dean, Dr. Henry D. Didama; a history of the building, by Dr. Gaylord P. Clark, of the medical faculty; and an address by Dr. Stephen Smith, of New York.

## A CASE OF CHRONIC PLEURISY WITH EFFUSION TREATED WITH PROTONUCLEIN.

By ALMON H. COOKE, M.D.,

INSTRUCTOR IN MEDICINE  
IN THE MEDICAL DEPARTMENT OF NIAHARA UNIVERSITY, BUFFALO, N. Y.

ON June 2d of this year, a lady came into my office in a greatly disturbed state of mind, telling me that she had suffered from an attack of pleurisy since March 1st, and now she had been told that "it had turned into an abscess on the lung, and that "she must go to the hospital (to her a place of torment) and have a tube put through her ribs," to say nothing of being "laid up" for six or eight weeks.

She was very thin, having lost ten pounds or more, and complained of severe pain at the base of her right lung when she took more than a shallow inspiration. She also said that there was a sensation of fluid running in her chest when she brought it to a horizontal position. Her temperature was 100.5° F., and, to use her own expression, she felt "altogether miserable."

On examination there were evidences of adhesions at the base of the right lung, also indications of a small amount of fluid which I suspected would be pus. However, the exploring needle proved it to be of a serous nature, slightly cloudy, due to the presence of a few pus cells. The following treatment was outlined, and, I am happy to say, was faithfully executed:

Protonuclein tablets, three grains (Reed and Carnrick), half an hour before meals and at bedtime, subsequently increased to five tablets *per diem*. Also ten minims of fluid extract of cascara at bedtime, to regulate the bowels, which were in a torpid condition. Besides this, the surface over the painful area was painted with iodine every second or third evening, as the condition of the skin permitted.

Her diet consisted of not less than half a pound of lean beef or chops at two meals each day, with vegetables in limited quantities, to which was added half a pint of cream each day, to be consumed in a manner most agreeable to the patient.

The result of this treatment was, that the patient gained flesh at the rate of a pound a week and strength in accordance. The temperature became normal at the end of the second week, and deep inspiration gave no pain early in the third week. No trace of fluid could be found by the tenth day, while after eight weeks of treatment the patient declared that she never felt better in her life.

This case seems to me to be one which demonstrates the beneficial properties of protonuclein, especially when combined with a nourishing diet. There can be no doubt that this case would have terminated in empyema, and that very shortly, had active treatment been delayed; and I believe that many cases of pleurisy with an effusion which is not absorbed so rapidly as it ought to be, would be speedily cured by a treatment substantially the same as the one employed in this case.

410 ASHLAND AVENUE.

**Changes of Address.**—Dr. C. Cole Bradley, to No. 51 West Fifth Street, New York; Dr. W. B. Pritchard, to No. 105 West Seventy-third Street, New York.



## TWO INTERESTING NASAL CASES.

BY ELLWOOD MATLACK, M.D.,  
PHILADELPHIA.

1. *Primary Nasal Syphilis*.—Intranasal chancre is, perhaps, sufficiently rare to warrant the report of the following case in some detail:

The patient is a turnkey in a local police station, compelled to come in contact with all the lower classes. He noticed some weeks ago a slight discharge from the right nostril, at times tinged with blood; soon after he began to experience difficulty in breathing through that side.

My first examination showed an ulcer with infiltrated edges, occupying a portion of the anterior end of the inferior turbinated bone, and extending along the inner surface of the ala to within a short distance of the mucocutaneous junction. It was covered with a slough which, together with the infiltration, caused almost complete occlusion of the nostril.

Ordinary stimulant and escharotic treatment proved of no avail, the ulcer enlarging and causing swelling of the submaxillary glands, and a very marked prominence of the external surface of the nose. The ulceration soon became phagedenic, and, fearing external perforation, I placed the patient on full doses of mercury, the effect of which was almost at once perceptible, the ulcer disappearing completely in three or four weeks.

Infection in this case apparently resulted from picking the nose after contact with syphilitic poison from one of the prisoners. In view of the occupation of the patient, the physical characteristics of the ulcer, the marked infiltration, the enlargement of the submaxillary glands, and the result of specific treatment, there can, I think, be no question of the diagnosis, even though I was compelled to use mercury before any cutaneous lesion could appear.

2. *Nasal Cystoma*.—Medical literature contains few references to true cystic growths of the nasal cavities, other than cystic degeneration of myxomata, which probably is not rare.

The cystoma coming under my observation occurred in a lady whom I had treated with considerable regularity for two or three years past, her symptoms being those of obstructive nasal catarrh and marked tinnitus and slight deafness in the left ear. Most of the pathological processes were more marked on the left side and included hypertrophic turbinals and general thickening of the post-nasal structures and crust formation in the pharyngeal vault. These lesions were treated in the usual manner with complete relief.

Some months after the last operative treatment, she began to complain of an intermittent, unilateral nasal discharge, and pain referred chiefly to the left malar bone and lower edge of the orbit, which gradually increased in severity until there appeared the discharge of straw-colored fluid from the affected nostril, when all the symptoms would disappear for a time. Examination revealed a large mass, having the appearance of a myxoma, attached to the posterior end of the left middle turbinated, and extending over and at times covering the pharyngeal opening of the Eustachian tube. Contact with a probe caused the rupture of one of the di-

visions of the cyst, and the escape of a considerable amount of fluid. A snare was slipped over the mass and it was removed, most of the fluid escaping during the operation. It proved, upon examination, to be a multilocular cyst, and in structure showed no relation to ordinary nasal polypi. Immediate relief of all the symptoms followed.

A peculiar feature of this case is that, although the cyst has been removed but three months, and the removal was apparently complete, yet there has been recurrence, and a cyst nearly as large as the original one occupies apparently the same position. The aural tinnitus has returned, but there have been no neuralgic symptoms.

UNION MISSION HOSPITAL, September 12, 1896.

## Therapeutical Notes.

**Atropine in the Treatment of Pharyngeal Diphtheria**.—Elsaesser (*Therapeutische Monatshefte*, August, 1896; *Therapeutische Wochenschrift*, August 23, 1896) employs the following formula:

R Atropine sulphate..... 0.045 grain;  
Cocaine hydrochloride..... 0.75 "  
Bitter-almond water..... 300.00 grains.

M. S.: One drop every hour for each year of the child's age.

For adults, according to the patient's constitution and the severity of the disease, he orders from ten to fifteen drops every hour. The frequency of administration is important, and at first it should be kept up even at night; consequently great care is necessary on the part of the nurse.

**The Treatment of Urticaria**.—The *Glasgow Medical Journal* for September states that Mr. Hutchinson reports, in the July number of the *Archives of Surgery*, the effects of treatment in the case of a lady who had for six months suffered from a peculiar form of tuberosc urticaria. The attacks affected the face and caused much swelling; also the throat, producing such a sense of suffocation that the patient feared she would choke. Arsenic was used without any obvious effect. Then the patient was ordered a mixture containing in each dose two grains of quinine and a drachm of tincture of cinchona, and after this had been continued for four months the liability to the attacks of urticaria had entirely ceased and the patient's general health was much improved. At the end of the quinine treatment, an attack of shingles on the side of the chest occurred.

**Savine in the Treatment of Vegetations of the Vulva**.—Dr. Lataud (cited in the *Journal des praticiens* for September 26th) uses for small vegetations the following formula:

R Powdered savine, } of each..... 25 parts;  
Desiccated alum, }  
Corrosive sublimate..... 1 part.

M.

A more active application is the following:

R Powdered savine, }  
Iodoform, } ..... equal parts.  
Salicylic acid, }

M.

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CHELIDONIUM IN THE TREATMENT OF CANCER.

AMONG the many medicinal virtues that have been popularly imputed to the juice of *chelidonium majus* is that of curing warts. Acting on this hint from domestic practice, Dr. Denissenko (*Vratch*, 1896, No. 30; *Deutsche Medizinal-Zeitung*, September 24, 1896) has tested its action on carcinomatous growths in the municipal hospital in Brjansk. In his early experiments he used the fresh juice of the herb, but those trials were imperfect, partly because the patients, being still able to work, would not remain in the hospital more than two or three days, and partly because the fresh juice could be obtained only during two months in the year. Consequently, since February, 1895, he has been using the extract found in the shops.

His method of employing chelidonium is as follows: He directs that from twenty-two to seventy-five grains of the extract shall be taken internally, dissolved in distilled water or peppermint water, every day throughout the treatment. Into the substance of the tumor, as close as possible to the boundary between it and the healthy tissue, he throws a number of injections of from two to four drops of a mixture of equal weights of the extract, glycerin, and distilled water, not exceeding a syringeful in all. The frequency with which these injections are given is not stated. If the tumor is ulcerated, he paints its surface twice a day with a mixture of one or two parts of the extract and one part of glycerin. Iron, quinine, and other supporting remedies are employed according to the indications.

Except in a few cases, the internal use of the drug caused no disturbance of the stomach, but the painting of the ulcerated surfaces gave rise to a slight and transitory burning. It was different with the parenchymatous injections; in all instances, after the injections, especially after the first one, there was burning pain at the site of the operation, the patient felt weak, there was a more or less severe chill, and then the temperature rose to between 100° and 102° F. Although these symptoms disappeared on the following day, Dr. Denissenko saw reason to exercise a certain amount of caution in the use of the injections.

The effects of this treatment were shown in the course of a very few days. They were the following: 1. The sallow hue of the skin disappeared. 2. Softening of the tumor set in. 3. After from three to five days, there formed at the points of injection fistulous tracts about which the softening process went on with special rapidity. 4. In from fifteen to twenty days a line of demarcation could be distinguished between the morbid and the healthy tissues; the one seemed to be forced away from the other. In general, the tumor diminished more than half in circumference, and the affected lymphatic glands of the neighborhood underwent involution.

It is to be hoped that further trials will be made of this simple method of combating so dreadful a disease as cancer, and that it will prove as effective in the hands of others as it seems to have proved in Dr. Denissenko's.

THE INFLUENCE OF EBERTH'S BACILLUS AND THE BACILLUS COLI COMMUNIS ON THE SERUM.

AT a recent meeting of the Lyons Society of the Medical Sciences, a report of which appears in *Lyons médical* for September 20th, M. Rodet stated that in the course of several months he had subjected a sheep to numerous injections of cultures (living or killed by heat) of the bacillus of Eberth, and another sheep to a perfectly parallel treatment with cultures of the *Bacillus coli communis*. The two animals had behaved remarkably alike as regarded their febrile reaction. Although they were as yet but imperfectly protected against the bacilli, their serum already showed in a high degree the curious property insisted upon by Gruber of immobilizing, agglutinating, and precipitating the microbe with which they had respectively been inoculated; it was somewhat the more decided in the serum of the sheep that had been treated with the *Bacillus coli communis*.

In each instance the action of the serum was not limited to the microbe that had furnished the material with which the animal had been inoculated, although upon that organism it was the more pronounced, so that, for example, the *Bacillus coli communis* was almost inert in the presence of serum from the sheep that had had the Eberth-bacillus treatment. Placed in a mixture of equal parts of that serum and bouillon, the colon bacillus did not grow in the form of a homogeneous cloud, but in that of a grumous precipitate, absolutely the same as in a similar mixture of bouillon and serum from the animal treated with its own products. On the other hand, the Eberth bacillus was much more affected by the colon-bacillus serum, although not so energetical-

ly as by the other serum. This action of the colon-bacillus serum on Eberth's bacillus, M. Rodet remarked, was not that of mere serum, for the serum of an uninoculated sheep had no such effect; moreover, neither the colon-bacillus serum nor the Eberth-bacillus serum had any influence on the Löffler bacillus.

M. Rodet had also tested the serum from the two animals with respect to their preventive power. On administering them to guinea-pigs before inoculating them with virulent cultures, he had observed a sufficiently energetic preventive power on the part of the colon-bacillus serum against infection by that bacillus, and on the part of the Eberth-bacillus serum against infection by the *Bacillus typhosus*. Moreover, he had observed that the colon-bacillus serum exerted a preventive action against infection with Eberth's bacillus—slight, to be sure, but very manifest and superior to that exerted by the serum of an uninoculated sheep. Finally, M. Rodet held that his results weakened the force of the argument that had been drawn from the action of the serum of protected animals against the view that the *Bacillus coli communis* and Eberth's bacillus were closely allied; but they did not establish the fact of a radical separation between them.

### MINOR PARAGRAPHS.

#### PROPOSED MEDICAL LEGISLATION IN VERMONT.

A SOMEWHAT hasty examination of the draft of a proposed act to create a State board of medical examiners for Vermont, which reached us too late for insertion in this issue, seems to warrant the provisional conclusion that the bill is a judicious one in the main. One thing in it, however, we do strenuously object to, and that is that it designates non-sectarian physicians as "allopathic." By all means, let this blunder be corrected.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 6, 1896:

DISEASES.	[Week ending Sept. 29.]		Week ending Oct. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	29	6	35	7
Scarlet fever.....	50	3	48	7
Cerebro-spinal meningitis....	1	1	0	0
Measles.....	36	1	20	6
Diphtheria.....	142	26	169	16
Tuberculosis.....	155	106	158	107

**The National Sanitary Association**, composed of members of various sanitary boards, will hold its annual convention in Brooklyn on October 13th, 14th, and 15th. The officers are: Wallace Sibley, M. D., of Rochester, president; F. O. Young, M. D., of Lexington, Kentucky, vice-president; Thomas E. Veal, of Atlanta, secretary; and C. E. Hoadley, of New Haven, treasurer. The chairmen of committees are as follows: Executive, E. A. Wilson, M. D., of Meriden, Connecticut; laws, C. E. Hoadley, Esq., of New

Haven; contagious diseases, F. A. Jewett, M. D., of Brooklyn; collection and disposition of garbage, Thomas E. Veal, of Atlanta; potable water, F. O. Young, M. D., of Lexington, Kentucky; food, Floyd W. McRae, M. D., of Atlanta; milk, Z. Taylor Emery, M. D., of Brooklyn; plumbing and drainage, Andrew Young, of Chicago; vital statistics, C. E. Hoadley, of New Haven.

The following papers have already been prepared for the convention: Municipal Control of the Consumptive, by Thomas C. Craig, M. D., of the United States Navy; Notes on the Bacterial Diagnosis of Pulmonary Tuberculosis and Mixed Infection, by Charles B. Fitzpatrick, M. D., of the New York department of health; Notes on the Small-pox Epidemic of 1893 and 1894 in Brooklyn, by H. H. Morton, M. D., of the Brooklyn department of health; The Work of the Division of Contagious Diseases of the Health Department of the City of New York, by Charles S. Benedict, M. D.; The Enforcement by Legal Process of Municipal Sanitary Ordinances, by Albert R. Moore, Esq., counsel to the department of health, Brooklyn; Contagious Disease. What is it? Cause, Prevention, and Treatment, by William P. Yonkey, of Lafayette, Indiana; and Scarlet Fever, by J. F. Kennedy, of Des Moines, Iowa. Papers are also expected from Colonel George E. Waring, Jr., commissioner of street cleaning, New York; Professor E. H. Bartley; Dr. E. A. Wilson, of Meriden, Connecticut, and others. Surgeon-General Sternberg, of the army, is expected to be present and discuss a paper.

**The Regulation of Medical Practice in Wisconsin** is in sore need of a radical change, if we may judge by a circular issued by the Wisconsin Eclectic Medical College, of Milwaukee, which was recently received by a New York physician, who has turned it over to us with the question "Can it be possible that any one can secure a diploma and practise medicine for thirty-five dollars and a fake examination?" Among other remarkable things, this precious circular says:

"During the course of our correspondence we often find persons that have been acquiring knowledge of medicine for many years past and some that have practiced medicine successfully for differing periods of time, but are at an immense disadvantage in States where monopoly laws exist. If such a person will please give us a statement of the circumstances, giving time they have studied or practiced or both, we will arrange for their examination at their own home, and if the examiners of this college find it satisfactory they can be legally and lawfully graduated, receiving the diploma of the college, conferring the degree of doctor of medicine without attendance at the college. The examination questions are all asked with one principal object always in view, they are all soundly practical and are intended to show if the applicant is actually in possession of the knowledge and qualifications requisite to become a safe and competent practitioner. Some are already fully qualified to pass the examination, while again others are deficient in some respect and not quite up to our standard, in such cases a diligent study of proper books will soon remedy the trouble and when they are sufficiently qualified, the degree of doctor of medicine, can be conferred at any time. The time of graduation and obtaining a legal medical diploma is a very great event in the life of any person, as the append of M. D. always, raises the individual in the social scale no matter who he or she may be. It also gives to its owner a position . . . which is absolutely unobtainable by any other means."

The illiteracy of the foregoing quotation we have made no attempt to disguise, contenting ourselves with pruning its profusion of capital letters. Can the people of the State of Wisconsin endure the reputation of tolerating such an institution?

**Army Intelligence.**—Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 26 to October 3, 1896:

DAVIS, WILLIAM B., Captain and Assistant Surgeon, is granted leave of absence for twenty-five days.  
FAUNTLERROY, POWELL C., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Grant, Arizona, and ordered to Fort Niobrara, Nebraska, for duty.



McCREERY, GEORGE, Captain and Assistant Surgeon, is relieved from duty at Fort Niobrara, Nebraska, and ordered to Boston, Mass., for duty as attending surgeon and examiner of recruits.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending October 3, 1896:*

BRODRICK, R. G., Assistant Surgeon. Detached from the Franklin and granted leave for two months.

VAN REYEN, W. K., Medical Director. Ordered to duty as member of the Inspection and Survey Board. October 1.

WISE, J. C., Medical Inspector. Detached from duty on the Board of Inspection and Survey and ordered to Museum of Hygiene. October 1.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Fifteen Days ending September 30, 1896:*

IRWIN, FAIRFAX, Surgeon. Granted leave of absence for thirty days from October 5, 1896. September 28, 1896.

BANKS, C. E., Surgeon. When relieved from temporary duty at Vineyard Haven, Mass., to inspect unseviceable property at Boston, Mass., then to rejoin station in Washington, D. C. September 22, 1896.

WASDIN, EUGENE, Passed Assistant Surgeon. Granted leave of absence for twenty-eight days from December 4, 1896. September 30, 1896.

BROOKS, S. D., Passed Assistant Surgeon. To assume temporary command of Quarantine Station at Port Townsend, Washington, in addition to other duties for thirty days. September 16, 1896.

GEDDINGS, H. D., Passed Assistant Surgeon. Granted leave of absence for seven days from September 22, 1896.

WERTENBAKER, C. P., Passed Assistant Surgeon. To proceed from Delaware Breakwater Quarantine to Wilmington, Del., for special temporary duty. September 16, 1896.

YOUNG, G. B., Passed Assistant Surgeon. Granted leave of absence for twenty-three days from October 1, 1896. September 22, 1896.

STEWART, W. J. S., Passed Assistant Surgeon. To inspect quarantine establishment of Washington, D. C. September 22, 1896.

NORMAN, SEATON, Assistant Surgeon. To proceed from New Orleans, La., to Memphis, Tenn., for temporary duty. September 24, 1896.

GREENE, J. B., Assistant Surgeon. Leave of absence extended four days, upon expiration of which to proceed to Key West, Fla., for temporary duty. September 30, 1896.

#### Society Meetings for the Coming Week:

MONDAY, October 12th: New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); New York Academy of Medicine (Section in General Surgery); Lenox Medical and Surgical Society (private), New York; Microscopical Club of the Buffalo Society of Natural Sciences; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, October 13th: New York State Medical Association (first day—New York); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Association of Northern New York (annual—Malone); Medical Societies of the Counties of Albany (semi-annual), Chenango (tri-annual), Greene (semi-annual—Cairo), Jefferson (quarterly—Watertown), Oneida (semi-annual—Rome), Ontario (quarterly), Rensselaer, Schoharie (semi-annual), and Tioga (Owego), N. Y.; Newark, N. J. (private), and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, October 14th: New York State Medical Association (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

THURSDAY, October 15th: Vermont State Medical Society (first day—St. Johnsbury); New York State Medical Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, October 16th: Vermont State Medical Society (second day); New York Academy of Medicine (Section in Orthopaedic Surgery); Brooklyn Medical Society; Baltimore Clinical Society; Chicago Gynaecological Society (annual); St. Louis Academy of Medical and Surgical Sciences.

SATURDAY, October 17th: Clinical Society of the New York Post-graduate Medical School and Hospital; St. Louis, Medical Society.

## Births, Marriages, and Deaths.

### Born.

GARCIN.—In Richmond, Virginia, on Wednesday, September 30th, to Dr. and Mrs. Ramon D. Garcin, a son.

### Married.

BOGIE—MORSE.—In Kansas City, on Thursday, September 10th, Dr. Marcus A. Bogie and Miss Elizabeth M. Morse.

COULBOURN—HOOD.—In Mobile, on Wednesday, October 7th, Dr. Joseph Thomas Coulbourn, of Birmingham, Alabama, and Miss Annie Anderson Hood.

GOLDBERG—JACOBS.—In Buffalo, on Tuesday, October 6th, Dr. Jacob Goldberg and Miss Rebecca Jacobs.

GRINNELL—CATHERWOOD.—In the Presidio, California, on Monday, October 5th, Dr. Morton Grinnell, of New York, and Miss Jennie Stanford Catherwood.

NEUMANN—VOGEL.—In New York, on Tuesday, October 6th, Dr. Ignatz Neumann and Miss Flora Vogel.

VAN GIESON—POOL.—In Jersey City, on Wednesday, January 8, 1896, Dr. Ira Van Gieson, of Greenpoint, Long Island, and Miss Evelyn Pool.

### Died.

ARTMAN.—In Buffalo Creek, Colorado, on Tuesday, September 9th, Dr. Milton Ellsworth Artman, formerly of Rochester, N. Y., aged thirty-two years.

AYRES.—In Pontchatoula, Louisiana, on Sunday, September 27th, Dr. William C. Ayres, formerly of New York, in the forty-fourth year of his age.

BURGESS.—In Summerton, South Carolina, on Friday, September 11th, Dr. Thomas L. Burgess.

HOLSTEN.—In Beaumaris, Canada, on Friday, August 21st, Dr. George Dedric Holsten, formerly of Brooklyn N. Y.

## Letters to the Editor.

### CRATÆGUS OXYACANTHA IN THE TREATMENT OF HEART DISEASE.

CHICAGO, September 10, 1896.

To the Editor of the New York Medical Journal:

SIR: I desire to call the attention of the profession to a new, or rather a lately announced, cure for certain forms of heart disease. Well, there lived in the city

of Ennis, County Clare, Ireland, until about two years ago, a prominent physician named Greene.

Dr. Greene was well and favorably known over the greater part of Ireland and parts of England and Scotland for professional skill and learning, but chiefly for his reputed ability to cure heart disease.

People flocked to him from all parts of the land to be treated for that disease.

He amassed a good deal of money out of his secret remedy, but lost caste with the profession for refusing to disclose his secret. About two years ago he died, and his daughter, a Mrs. Graham, the sole beneficiary of his will, directed the executor of the will to make public the heart cure. This he did, and it was found to consist of a fluid extract made from the *Crataegus oxyacantha* or hawthorn fruit. My brother, who resides within a few miles of Ennis, having informed me of these things, I immediately wrote him requesting that he send me some of the fruit to be used for testing the efficacy of the remedy, which he did.

I made a fluid extract according to the *British Pharmacopæia* and have used it, up to the present, on forty-three patients suffering with various forms of heart disease, and, I must say, with the most gratifying results. I can cite but a few of these cases as illustrating its curative power on that disease.

Case I was that of a Mr. B., aged seventy-three years. I found him gasping for breath when I entered the room, with a pulse-rate of 158 and very feeble; great oedema of lower limbs and abdomen. A more desperate case could hardly be found. I gave him fifteen drops of the fluid extract of *crataegus* in half a wineglass of water. In fifteen minutes the pulse beat was 126 and stronger, and breathing was not so labored. In twenty-five minutes pulse beat 110 and the force was still increasing, breathing much easier. He now got ten drops in same quantity of water, and in one hour from the time I entered the house he was, for the first time in ten days, able to lie horizontally on the bed. I made an examination of the heart and found mitral regurgitation from valvular deficiency, with great enlargement. For the oedema I prescribed *hydrargyrum cum creta*, squill, and digitalis. He received ten drops four times a day of the *crataegus* and was permitted to use some light beer, to which he had become accustomed, at meal time.

He made a rapid, and apparently full, recovery until, in three months, he felt as well as any man of his age in Chicago. He, occasionally, particularly in the change of weather, takes some of the fluid extract of *crataegus* which, he says, quickly stops shortness of breath, or pain in the heart. His father and a brother died of heart disease.

Case II was that of a young woman. I was met in the hallway of her home, as I entered, with the announcement that she was dead.

I went in and found that she was not quite dead, though apparently so. I put five or six drops of nitrite of amyl to her nose and alternately pressing and relaxing the chest, so as to imitate natural breathing, I soon had her able to open her eyes and speak. I gave her hypodermically ten drops of the fluid extract, and in less than half an hour she was able to talk and describe her feelings. An examination revealed a painfully anæmic condition of the patient, but without any discoverable lesions of the heart, except functional.

The pulse was hardly perceptible for twenty minutes after she received the hypodermic injection; after that

lapse of time it grew slowly strong and less numerous, and at the end of half an hour was fairly good.

A chronic dysentery and indigestion, which were responsible for her trouble, having been cured, the heart trouble and nervous state gradually responded to the general improvement until, at the end of ten weeks, the girl was in a perfect state of health.

She received ten drops of the fluid extract of *crataegus*, after meals, three times a day for one month—after that only occasionally. Her heart trouble, though very dangerous, was only functional, and resulted from the want of proper assimilation of the food due, chiefly, to the dyspeptic state and dysentery.

Case III was that of a lady from Louisville. She had come hither and put herself under the care of a faith-cure man, and had grown worse, daily, until she was taken with dyspnoea at the time I was called to her. She could have lived but a short time if relief was not promptly given her. She was suffering from compensatory enlargement of the heart from mitral insufficiency. A married sister and her father had similar trouble, she said. Her treatment was ten drops of the fluid extract of *crataegus* in half a wineglass of water, four times a day, after eating, with a pill consisting of *hydrargyrum cum creta*, digitalis, and squill. When any indication of salivation became evident the pill was omitted until the gums or mouth had become normal. After one month all active treatment, except a tonic, had been succeeded by an occasional treatment only for the next succeeding two months, and which consisted in giving the patient the medicine once or twice daily and only increasing the frequency of the dose when a lowering barometer or heavy atmosphere indicated possible heart trouble. This patient returned to Louisville in three months apparently well, or at least with neither subjective nor objective signs of disease of the heart.

In a letter from her, three months afterward, she said she was feeling well, but that she would not feel fully secure without some of the *crataegus*.

The forty other cases ran courses somewhat similar to the three cited—all having been apparently cured. Yet, I am not satisfied, beyond a doubt, that any of those patients were completely cured, except those whose troubles of the heart were functional, like the second case cited. And it is possible, and even probable, that, in weather of a heavy atmosphere or when it is surcharged with electricity, or if the patient be subjected to great excitement or sudden and violent commotion or exercise, he may suffer again therewith. That the medicine has a remarkable influence on the diseased heart must, I think, be admitted. From experiments on dogs and cats, made by myself, it appears to influence the vagi and cardio-inhibitory centres, and diminishes the pulse rate, increases the intraventricular pressure, and thus filling the heart with blood causes retardation of the beat and an equilibrium between the general blood pressure and force of the beat. Cardiac impulse, after a few days' use of the *crataegus*, is greatly strengthened and yields that low, soft tone, so characteristic of the first sound, as shown by the cardiograph. The entire central nervous system seems to be influenced favorably by its use; the appetite increases and assimilation and nutrition improve, showing an influence over the sympathetic and the solar plexus. Also, a sense of quietude and well-being rests on the patient, and he who, before its use, was cross, melancholic, and irritable, after a few days of its use shows marked signs of improvement in his mental state. I doubt if it is indicated in fatty en-



largement. The dose which I have found to be the most available is from ten to fifteen drops, after meals or food. If taken before food it may, in very susceptible patients, cause nausea. I find, also, that after its use for a month it may be well to discontinue for a week or two, when it should be renewed for another month or so. Usually, three months seem to be the proper time for actual treatment, and after that only at such times as a warning pain of the heart or dyspnea may point out.

Digitalis, in some form, should be used as an adjunct to the cratægus. M. C. JENNINGS, M. D.

#### AN ODD EYE CASE.

SCRANTON, PENNSYLVANIA, September 10, 1896.

To the Editor of the *New York Medical Journal*:

SIR: The following case that I saw some time ago is rather unique in several particulars: J. M., twenty-eight years old, consulted me about a failure of vision in the left eye that had come on suddenly, without any pain or other irritation. The patient, who is a machinist, stated that up to three weeks before I saw him he had been able to see as well with one eye as with the other; that at that time he began working nights under the glare of an exposed arc light, and that he did not seem to see his work so well with the left eye (which was nearest the light). He paid no attention to this, thinking it was only imagination or some passing trouble, till the morning of his call, when, on closing the right eye, he found the left one practically blind. On examination, a few feet away there was no noticeable difference in the cornea; but in the dark the vision was reduced to a bare perception of the candle flame at a distance of ten feet. On ophthalmoscopic examination, the posterior surface of the cornea seemed impervious to light and presented a tessellated appearance, very regular in marking, of a pearly hue, the marking being in the form of diamonds or pointed squares. There was no change in the tension. His smoking was limited to one cigar a week, generally Saturday evening. No specific trouble could be ascertained, and he never had been sick for a day since childhood. What caused the condition? I am of the opinion that it was due to working under the light. Was it not due to the X rays? I should be pleased to learn if any fellow oculist has seen a similar case. I can find nothing like it in the literature on the subject.

W. F. CONNERS, M. D.

### Proceedings of Societies.

#### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Eighteenth Annual Congress, held in Pittsburgh, Pa., Thursday, Friday, and Saturday, May 14, 15, and 16, 1896.*

The President, Dr. WILLIAM H. DALY, of Pittsburgh, in the Chair.

(Continued from page 469.)

The *Ætiology of Deviations, Spurs, and Ridges of the Nasal Septum*.—Dr. JOHN O. ROE, of Rochester, read a paper on this subject. (See page 477.)

The Operation for Deviation of the Nasal Septum.—Dr. A. W. WATSON, of Philadelphia, read a paper on this subject. (See page 451.)

A *Manometer*.—Dr. WRIGHT demonstrated an instrument for determining the amount of nasal obstruction. He stated that by watching the column in the glass tube, one would see it rise, and by that means could determine the amount of obstruction as registered upon the tube. There were several sources of error. The rapid expiration did not interfere with the fluid. One must be sure that the tubes were clear, and a little experience made this method one of value to the general practitioner who was not able to make a proper diagnosis.

Dr. E. F. INGALS, of Chicago, said: I have been much interested in these papers, and I fully agree with the first paper in what was said about the predisposing causes of the deflection being due to nutritive changes. I believe nutritive changes are the cause of nearly all deflections of the septum; but I think the exciting causes mentioned have very little influence. We all know that now and then everybody gets a blow on the nose, whether he has a deflected septum or not, but the assumption that these accidents cause many of the deviations has been very properly criticised. A few years ago, a priest who had a bent septum and who had been under the care of one of our fellows, told me that he had inquired as to the cause. The physician asked him if he ever when he was a boy received a blow on the nose. He answered that he supposed he had, as he never knew a boy of any spirit who had not. I doubt if there is a man in this room who has not at some time received a severe blow on the nose, yet probably not more than fifty per cent. at most have deflection. To attribute the ordinary deflected septum to a blow is very much like the reasoning I once saw in a homœopathic journal on the wonderful effects of a thousandth potency of arsenic in relieving nervousness. After several doses relief was obtained, which was attributed entirely to the arsenic, but it subsequently appeared that thirty grains of bromide of potassium had been given with each dose. I believe blows upon the nose have very little influence in causing deflection, unless they are followed by protracted congestion. The paper states that Indians seldom have deflection of the septum, but I have no doubt that blows upon the nose are much more frequent among them than among civilized people. Deflections affect osseous as well as cartilaginous portions. The probable reason that the Indians do not often have deflections is that they are constantly out of doors, and therefore suffer less from nasal catarrh, with attendant hyperæmia and supernutrition of the nasal mucous membranes and underlying tissues.

Dr. ASCH, of New York, said: I agree with Dr. Ingals's criticism in regard to the cause of deflection. I do not believe that one case in fifty is due to traumatism. If you consider the character of the deviations that we are called upon to treat, you will see that it would not be possible to have such deviations without some external deformity. The majority of the cases are those in which you have an acute angle looking something like the figure I draw on the board. Traumatism would not produce that. It seems to me that it is rather due to a deformity of the osseous framework pushing the cartilaginous septum down. With regard to the enlargement of the turbinated body, I think Dr. Roe is correct, that it is caused by irritation due to the increased passage of air. Concerning Dr.



Watson's paper, I regret to hear him say that there has been no method suggested for curing deflections of the septum. He evidently has not read the paper I read before this association in Baltimore in 1889, in which I described an operation which has been performed by me in New York over a hundred times, and in nearly every case with success. There are, doubtless, men here who have done this operation, and I should like to put myself on record to the effect that operations have been devised before now by means of which the deformity can be successfully treated. I have brought the instrument with me that I showed at the previous meeting, and which I show you here, and I read a paper in the fall of last year, since which time many successful operations of the kind have been done. I should like permission to describe the operation once more, it being founded on the fact that the only way you can cure is by destroying the resiliency of the septum. (The speaker here demonstrated his instrument.) Two sections are made as nearly at right angles as possible, and the segments which are made are broken up with the finger. I then insert a hard-rubber tube of the kind I have here and the operation is finished. I formerly plugged the nostrils, but the inconvenience arising from it was so great that I substituted the tubes. The operation is done very quickly, and the scissors are employed by me instead of a knife. You can operate without seeing. Push your finger through after the incision is made and break down the segments before introducing the tube. You may not get a cure in every case, for no operation can do this; but ninety-five out of every hundred cases will show good results. You will restore the respiratory function, and that is what you want. Your patient will be able to breathe perfectly well. I simply desire to go on record as having followed out the operation that I reported in 1889.

In response to Dr. Ingals's query as to how a case like that drawn on the blackboard would be treated, Dr. Asch said: Perfectly easy; make one section as I show on the board and another at right angles; push the segments through so that they break up at their base; take a strong forceps and break up the attachments, and then put in the tube. In nine out of ten cases there will be no perforation.

Dr. S. O. VANDER POEL, of New York, said: I was much interested in Dr. Watson's paper, as I have had some experience in the same operative procedure—that is, the reduction of the septum by means of the pin. I have met with the same difficulty that Dr. Asch has referred to—*i. e.*, the resiliency of the septum. In some twenty cases in which I employed the pin the pressure caused by it was so great that it produced great pain and discomfort in wearing, and was also sufficient, in several instances, to produce ulceration, the result being that a fenestra frequently formed, and instead of adhesive inflammation taking place, necrosis and consequent perforation followed. Of course I did attempt to obviate the natural resiliency of the cartilaginous septum. I broke up thoroughly the attachments of the cartilage, but the patient was unable to wear the pin sufficiently long on account of the pressure, and it was almost invariably followed by necrosis. With regard to Dr. Asch's operation, I have used it twice with good results. If the resiliency of the septum is sufficiently broken up under ether, as it should be, an appropriately fitting splint can be worn for a sufficient length of time without inconvenience to the patient. In addition to my own two cases, I have seen a number at the Manhattan Hospital.

Dr. CARL SEILER, of Philadelphia, said: Although I did not hear the papers, the discussion by Dr. Asch and Dr. Vander Poel has given me sufficient insight. It seems to me that Dr. Asch has simply revived an old operation, which was originally introduced before the American Laryngological Association by Dr. Glasgow, of St. Louis, and was afterward claimed by Dr. Sajous. Instead of using scissors Dr. Glasgow used a punch, so as to make a stellate incision into the septum. Evidently Dr. Vander Poel has had bad success with the pin splint, simply because he has not taken into account the fact that if you want to straighten up a fence you must put your posts down low. The fulcrum does not come in the middle of the fence, but at the bottom, and you must put your posts in the ground in order to hold it up. The incision Dr. Asch has described you will find given in the first edition of my book. In 1880 I also described Dr. Glasgow's operation, and mentioned that in order to make the pin a proper splint it should be introduced as near the nasal bone as possible, where the cartilaginous septum is inserted. It should run down from the other side, through the septum, and into the cleft of the two superior maxillary bones. Then hammer them fast. This may sound barbarous and unsentimental, but it is really the most successful and satisfactory method of producing a splint for fractured septum, without producing necrosis of either the cartilage of the septum or the superior maxillary bone. The only precaution that has to be observed is that the pin should be cut off short, or level with the skin. I generally allow from forty-eight hours to three days to elapse before I cut it short. I allow it to project beyond the level of the skin in order to compensate for swelling. There are three patients who have the pins in their noses now, because the skin healed over the end, and the pins sunk so that I could not get them out without making a disfiguring scar. The very fact of these patients still having these pins in their noses shows that if they are properly introduced there is no possibility of necrosis.

In response to Dr. Asch's query as to where the principle of this method, outside of his own book, could be found described, Dr. SEILER said: The principle is the same as in the other operation—that is, make two cuts one longitudinal and one crosswise.

Dr. J. E. H. NICHOLS, of New York, said: The whole matter seems to rest on whether the resiliency of the septum is broken up or not, and it certainly should be broken on all sides. The operation of Dr. Asch is a most excellent one, where the cartilaginous septum alone is involved. In some cases it is necessary to make a compound fracture of the septum, breaking up the cartilaginous septum and the anterior portion of the bony septum into a pulpy mass, so that it can be molded in the fingers. I have seen about two hundred cases of deviation cured by this method, and have personally done over eighty operations. I have used the splint devised by Dr. Berens, of New York, which is made of cork and covered with iodoform collodion. It is non-absorbent, and is worn from eight to ten weeks without any swelling following, during which time there is perfect nasal respiration. I have yet to see a case that can not be cured, and I think the success is due to the fact that the whole septum is broken up. I do not see how good results can be secured unless the resiliency and the surrounding attachments of cartilage are broken up.

Dr. D. B. DELAVAN, of New York, said: I gave the pin operation an extended trial, then abandoned it, as

being much less satisfactory in its results than others, and far more irritating. With regard to the Asch operation, while somewhat similar processes have been proposed before, it remained for Dr. Asch to elaborate a practical method for the relief of these cases. This he has done, first, in describing in practical detail the principles of his method and the various steps by which the work is accomplished; secondly, in devising the instruments necessary for the operation. The patients who have been exhibited by Dr. Asch from time to time amply prove the success of his work. As to aetiology, traumatism doubtless plays an important part in a certain number of these cases, but by no means in all of them, or, probably, even in the majority. Very many of the worst of them are the results of mouth-breathing. If this is not recognized, the most important opportunity for preventing the trouble—namely, by overcoming the mouth-breathing while the children are yet young—will be lost.

Dr. W. E. CASSELBERRY, of Chicago, said: No one now maintains that traumatism is the most common cause of deflection of the septum, yet all regard it as an occasional cause. Adenoid vegetations, in association with a high-arched palate, is another occasional cause; but heredity, I believe, deserves more consideration in this connection.

Dr. ROE mentioned the manner in which ossification took place, sometimes more rapidly on one side than on the other. Why is this so? he asked. When we speak of heredity we are still in the dark, but it goes one step farther back. I recently had three cases under observation: A mother with pronounced deflection to the left and her two sons with identically the same in the same location. It is reasonable to suppose that if heredity is influential in transmitting peculiarities in facial conformation it can also be influential in producing a peculiarly formed septum, which, after all, is simply an intranasal fracture, as subject to the laws of heredity as the external nose.

As to the operation for deflection, as no one case can be assigned in explanation of all cases, so no one operation is applicable in treatment, as cases differ very much. The deflection is sometimes horizontal, sometimes vertical, and again both combined. Some patients require anaesthetics, while others do not. As to Dr. Watson's operation, those who have not seen his drawing may have failed to appreciate the points. For certain horizontal deflections the point that he has made of bracing the deflection by overlapping the cut edges would be applicable. I have used a modified Asch operation, which is designed only for cartilaginous deflections, and I have found it very useful. I have done practically the same thing with a bistoury, making a crucial incision, that one could do with special scissors. I employ cocaine anaesthesia. In young patients it is difficult to insert a cutting forceps or the Asch scissors into the nose, and I have found a bistoury to answer very well. Some pressure is needed to break up the resiliency. I first use iodoform gauze packing to guard against hæmorrhage and as a splint for the first two or three days, and this is followed by the insertion of the Asch tube, which is worn for from four to six weeks.

Dr. MACKENZIE said that he arose to do a dead man historical justice. The principle involved in the operation of Dr. Asch originated with Dr. James Bolton, of Richmond, who years ago described his method of procedure in the *Virginia Medical Monthly*. Dr. Bolton first employed a pair of buttonhole scissors with which

he made the stellate incisions. Subsequently an instrument was made for him by an instrument maker in New York, and from this has developed the apparatus used at the present day.

After the operation it is not always necessary to pack both nostrils. I generally content myself with packing only one. Sterilized gauze answers every purpose. If there is a disposition for the septum to return to its malposition, I have a very thin hollow shell made to fit the narrowed nostril, and through this the patient can breathe with perfect freedom. This can be worn, if necessary, for weeks or months. The operation selected will depend upon the nature of the deflection. No one operation is applicable to every case. Often a case will require two or more different operations before success can be attained.

I do not think the statement of Dr. Ingals in regard to the relative frequency of deflection of the bony septum should go unchallenged by this society.

Dr. W. K. SIMPSON, of New York, said: I am very glad that Dr. Asch did not allow his operation to go unmentioned. I wish to emphasize the success of his operation. Its success depends not only on the operation itself, but the way in which the details are carried out. It has been emphasized before that the first thing is to break up the resiliency of the septum and then to keep it broken up. The splint devised by Dr. Asch and modified by Dr. Mayer, of New York, is almost a straight one. I wish to mention the fact that in stopping a hæmorrhage it is bad surgery to plug the nares with gauze for any length of time, and by using this splint plugging will not be necessary. Two splints are used, one being put on the convex side to retain the parts, and the other on the concave side. Both exercise pressure, and hæmorrhage is very rare. It may be very severe at the time of the operation, but stops immediately after the insertion of the splints. The one on the concave side may be taken out at the end of a day or two. A point that is often lost sight of is that the nose is not plugged at any time and can be freely washed out.

Dr. A. W. DE ROALDES, of New Orleans, said: I agree with the gentlemen who have commended the Asch operation. I was not so much impressed with it at first, but I made a point of calling on Dr. Asch and witnessing the operation. I was also present at a meeting of the Academy of Medicine when three or four cases were presented, and the results satisfied me. I subsequently procured an instrument which I have had occasion to use, and it has pleased me more than any others. In regard to the aetiology, I should like to say that my experience with the negro race is that they are less subject to deviations, and probably their larger nasal space is the cause. I have also thought it might be a question of nutrition and open-air life.

Dr. J. W. GLEITSMANN, of New York, said: Concerning Dr. Asch's instrument, I can verify the statements made, and in cases of marked deviation of the cartilaginous septum I have found his manner of operating more satisfactory and followed by better results than other methods with which I am acquainted. In my opinion, it should be more universally employed.

Dr. CHARLES M. SHIELDS, of Richmond, said: Attention has not been sufficiently drawn to the fact of the combination of deflection of the septum with thickening in many cases. All of the operations get at the same results by different means. I operate with a bistoury, because the incisions can be made where they will give the best results. I think it is most difficult to oper-



ate in those cases in which there is thickening as well as deviation, and I do not believe that any operation under such circumstances, consisting only of going through the septum, will be successful. If you get sufficient space there the thickening will ultimately cause recurrence. I always saw off the thickened part, having previously determined its existence, then make the incisions through the septum with the bistoury, and the parts are kept in position with splints.

Dr. GEORGE A. LELAND, of Boston, said: The first operation for deflection of the septum done by me according to the principles of Dr. Asch's operation, in 1888, but with simply the smooth forceps of Adams and the stellate cutting forceps of Steele, was a good success so far as the septum was concerned. The soft splints sometimes used have not had firmness enough to keep the septum where it ought to be, and the hard splints are objected to because of the danger of sloughing of the mucous membrane where there is pressure. Hence, I have used a hard-rubber, flat, tubular splint, wound with corrosive cotton, and saturated with a two-per-cent. solution of creolin before introduction. These splints, if accurately adjusted, cause no pain and no swelling, and may be allowed to remain for from seven to ten days without odor if the interiors are kept absolutely clean by the use of peroxide of hydrogen or other solvent and antiseptic solutions. I do not mean that the odor can not be perceived by the attendants, but the patient is not discommoded by it. Dr. Watson has given the indications for treatment very clearly.

The factor in the etiology of scoliosis septi mentioned by Mr. Mayo Collier, F. R. C. S. Eng., in a monograph which he kindly sent me in 1892—viz., an anterior obstruction in a nostril, causing a negative pressure behind it, and so a deflection of the septum to that side—is a very important one, and has given me indications for treatment of suitable cases since that time; and it has been my good fortune, by removal of a tumefaction of the hard or soft parts in the narrow nostril, in quite a number of cases, to see the septum return to the median line by the simple restoration of normal breathing.

In some cases of a moderate degree of deflection the use of a plug in the vestibule of the other nostril to create an artificial negative pressure on the wide side has a number of times been successful in my hands in doing what formerly seemed to require operative interference. The patient assists in the process by pressure of the little finger against the projecting part in the narrow nostril.

It is very common indeed to find an exostosis projecting into the narrower nostril from the intermaxillary ridge. These cases require operative interference, since this must be crushed back into the median line before permanent results can be hoped for. When this point has been attended to, and when respiration has been restored to an equal volume in both sides, I do not think it has been my experience to see a single recurrence in upward of sixty cases.

Dr. ASCH said: When I proposed this operation at the Baltimore meeting of the association, in the discussion that followed, Dr. Mackenzie, then president, stated that the same principle had been suggested by Bolton, of Richmond, though it had been attributed to others, but no operation had been presented with the technics of this one. The operations previously described were nearly all declared to be unsatisfactory, and the president found the same fault with Steele's forceps

as I do, one which led me to give it up after repeated trials—viz., that it did not cut through the septum.

Dr. A. A. BLISS, of Philadelphia, said: I should like to refer to an operation employed by Dr. Harrison Allen, which has not been referred to and which applies to cases where there is some thickening and deflection of the anterior end of the vomer, some hyperostosis at that point, which are difficult to overcome. The remarks made to-day apply very little to the bony portion of the septum. Dr. Allen makes an incision through the frenum of the upper lip at its junction with the alveolar process. The lip is then raised, and a chisel is passed upward through the incision and turned backward over the anterior nasal spine. He chisels directly back, through the anterior nasal spine, thus separating the anterior part of the septum from the floor of the nose, and only makes a very slight external wound. If there is much resiliency, he employs, in addition, cross incisions through the cartilaginous septum. The septum is pushed over to the median line by introducing the little finger into the nostril, and is retained in place by a rubber tube which is worn for several weeks. Excellent results have been obtained from this method. It will always give good results in the very difficult class of cases where the deflections are largely anterior, and where the triangular cartilage and vomer are both involved.

Dr. ROE said: No single operation is equally serviceable in the correction of all forms of deviation of the nasal septum. I think the modification proposed by Dr. Watson is a good one and will be found of service in many cases. Dr. Asch's operation is one that can be used for the cartilaginous portion of the septum only, but where the osseous portion also is deflected it is not applicable. In my experience, in the greater portion of cases of deviation of the septum the anterior portion of the vomer and the anterior portion of the vertical plate of the ethmoid are also found deflected and carried over to one side along with the cartilaginous portion. It is mainly in those cases in which there is a dislocation of the triangular cartilage where we find deviation of the cartilaginous portion only, and which is almost invariably the result of traumatism. No one believes that traumatism is the cause in all cases of deviation of the septum; but that it is frequently the cause when the occurrence of the injury may have been forgotten there can be no doubt. In these cases we generally find an enlargement on both sides of the articulation whereas if the deviation is due to defective development it will be found on one side only.

Three years ago I had the honor of bringing before this association a method of correcting deflections of the septum which I have found to serve the purpose in all cases where there is a combined deflection of the osseous and cartilaginous portions, and which, I think, is better than any other method that I am acquainted with. You are doubtless all of you familiar with my method, and many of you have told me of the excellent results you have obtained from its employment. If time permitted, I should, however, be pleased to describe it to you again, as Dr. Asch has had the pleasure of doing with his operation.

Dr. WATSON said: I am glad that there has been such a thorough discussion. In reply to Dr. Asch I would say that I have not seen his original paper on this subject, but from the general idea that I had of his operation I considered that it came under the head of those consisting of multiple incisions with the use of splints, and therefore did not mention it.



I have never employed his method, but have seen one case where his operation was done, about a week after the operation, and to my thinking it was a complete failure. In my opinion it is impossible to so break up the cartilaginous septum that it will not return, more or less, to its original form. It seems to me that the only way to obtain a permanent result is to reduce the size of the septum. I admit that it is difficult to accurately excise a piece in the horizontal line, but it can be done. In the modification which I have described the overlapping of the parts obviates the necessity for removing a piece in the horizontal line, as it reduces the vertical measurement of the septum.

(To be continued.)

### Book Notices.

*In Sickness and in Health.* A Manual of Domestic Medicine and Surgery, Hygiene, Dietetics, and Nursing, dealing in a Practical Way with the Problems relating to the Maintenance of Health, the Prevention and Treatment of Disease, and the most Effective Aid in Emergencies. By GEORGE WALDO CRARY, M. D., FREDERIC S. LEE, Ph. D., JOSIAH ROYCE, Ph. D., JOSEPH HAMBLEEN SEARS, A. B., SAMUEL T. ARMSTRONG, M. D., Ph. D., ALEXANDER B. JOHNSON, M. D., WILLIAM P. NORTHRUP, M. D., FRANK W. JACKSON, M. D., SAMUEL WALDRON LAMBERT, M. D., FREDERICK PETERSON, M. D., Ph. D., HENRY A. GRIFFIN, M. D., ANNA CAROLINE MAXWELL, and J. WEST ROOSEVELT, M. D., Editor. New York: D. Appleton & Company, 1896. Pp. xvi-991.

THIS is not a book of popular medicine in the ordinary sense of the words. Its tendency is not to induce the reader to dispense with the physician when needed; quite the contrary, those who profit by its perusal will be taught the value of trained attendance in sickness, and will meet the medical man half way and with an intelligence which will distinctly lighten his burden. Such a book, intended for popular use, must be so carefully conceived as to avoid a too great indulgence in scientific abstractions and, on the other hand, a too obvious trimming of the sails to attract popular favor. It is one of the most difficult of all literary tasks worthy to popularize scientific subjects.

The book is composed of thirteen articles, contributed by as many writers who are recognized authorities on the subjects of which they treat. The topics vary greatly in their claims on the attention of the reader. To the non-medical mind, anatomy is a dull enough subject, and the bald description of bones, nerves, and blood-vessels should be woven with a thread of practical usefulness, so that the application of the knowledge gained may be more clearly seen.

Physiology is admirably treated, in a manner at once scholarly and comprehensible. The style and individuality of the writer make the article extremely attractive.

Of the section on psychology we need only say that the author has made it so clear and its usefulness so apparent that it becomes an essential link between physiology and mental pathology.

The article on physical training is rather sophomoric in style, but its tendency is good. The amiable author

demands impossibilities with the zeal of a reformer, but the necessity of habit in exercise can not be too often repeated, and the plea for a higher ideal of physical culture will be productive of good results, especially in the family, where as a rule too little thought is given to that side of the education. Food and clothing are dealt with more satisfactorily in the following article.

Hygiene is treated with great clearness and authority. The article contains much information that should be common property. It is astonishing how much has been compressed into a small space, at the sacrifice perhaps of style, but forming, practically, one of the most useful portions of the book.

Surgical injuries and diseases are considered in an article of nearly two hundred pages. From a medical point of view, it is needless to say that the author has done justice to the subject, but he has not succeeded in divesting himself of the manner of the clinic. Detailed descriptions are out of place in a book of this character. Venereal diseases are dealt with also at unnecessary length, although the delicacy of the subject perhaps has led to the omission elsewhere of a consideration of the moral education of the young, a subject of great importance, containing the germ of prevention.

The articles on diseases in general and on kidney diseases and urinary derangements are characterized by the good sense and clearness as well as by the attractive style peculiar to their talented author.

Of diseases of women and midwifery we have only space to say that the subject has been treated with a refinement that should appeal to the readers for whom it is intended.

In the article on nervous and mental diseases, the author has given results of his large experience in the treatment of alcoholism, which should have great weight in showing the laity how inefficient are the numerous "cures" in vogue. At the present time this seems especially necessary in view of the credulity of some of our city officials.

The article on medicines and treatment is pleasantly written and full of good sense. The author's conservatism, even in the case of the objectionable medicine chest, is commendable.

Although the administration of morphine is mentioned where it is demanded, its great dangers are frequently emphasized. The introductory paragraphs and the generalizations with which the article begins have an unusual charm of style and a directness which leave little to be desired. Here, as elsewhere throughout the book, it is shown how regularity, moderation, and common sense are the three essentials upon which rests the prevention of disease.

The article on nursing the sick is full of practical suggestions, given in a simple and attractive manner, drawn from the large experience of the writer. The juxtaposition of the menu and the cut on pages 932 and 933 is unfortunate.

It may be considered that the introduction of technical descriptions and of abstruse terms is a disadvantage in a book of this nature. To a certain extent this is true, but with a few exceptions, some of which have been noted, the text is remarkably free from obscurity, and the non-medical reader will only be the gainer by this introduction to himself. It is as natural, and should be more so, that intelligent people should take as great an interest in their own structure and functions as in those of the plants and lower animals which sur-

round them. As for disease, when it ceases to be made more mysterious than it is, the reign of sober common sense will have begun.

We know of no book better fitted to inspire the mind of the reader with an interest in and a respect for the subtle processes of our being. Finally, it is a book designed to instruct those having the care of the young in the duty they owe to the community, and should fill admirably this important place in domestic literature.

More might have been said of the need of active measures to limit the spread of tuberculosis. It is through such books as this that the medical profession appeals most directly to the public, and it is only through public opinion that such measures may be taken.

The work of the publishers is excellent as to print and paper. The illustrations are numerous, in some instances perhaps too numerous, and good.

*A Manual of Obstetrics.* By W. A. NEWMAN DORLAND, A. M., M. D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, etc. With One Hundred and Sixty-three Illustrations in the Text and Six Full-page Plates. Philadelphia: W. B. Saunders, 1896. Pp. 7 to 760. [Price, \$2.50.]

THIS volume aims to fill a special field, the needs of the student. And it is not too much to say that it does this admirably both by text and by illustration. The author attempts to cover too much ground, if anything, within the limits of a manual. The discussion, for instance, of eclampsia is overburdened with the narration of theories which have no basis or which have been disproved long ago; certainly in a handbook a student cares little for the history of obstetrical advances. Other passages in the book, too, show the depth of the writer's researches and knowledge; but the criticism is that he has tried to compass too much within his prescribed limits.

On the other hand, there is much that is valuable in this manual. The tables of diagnosis, the discussion of abortion, the hygiene of the mother and of the child, the views expressed on puerperal sepsis and on operative obstetrics are all modern and sanctioned by authority.

The book is well written and well got up. The cuts are many of them new, most of them taken from other books. The frontispiece, representing the corpora lutea of menstruation and of pregnancy, is of ancient heritage and much better drawings might have been selected. The author might, also, have referred to Sabotta's recent work on the corpus luteum with profit. The book may be heartily commended to students.

*Deformities. A Treatise on Orthopædic Surgery.* Intended for Practitioners and Advanced Students. By A. H. TUBBY, M. S. Lond., F. R. C. S. Eng., Surgeon to the National Orthopædic Hospital, etc. Illustrated with 15 Plates and 302 Figures, of which 200 are Original, and by Notes of 100 Cases. London and New York: Macmillan & Co., 1896. Pp. xxii-3 to 598. [Price, \$5.50.]

WORKS on orthopædic surgery are now appearing so rapidly that each new comer challenges a somewhat searching scrutiny. Mr. Tubby's treatise produces a pleasant impression of the author's clinical sense, candor, and moderation, but one seeks in vain for any ma-

terial addition to our knowledge. The literature of the last twelve years, and especially the *Transactions of the American Orthopædic Association*, have been freely quoted, and the recognition of American contributions is particularly hearty. The material is well arranged and the conclusions are conservative, and yet the work as a whole can hardly be said to stand abreast of the best modern practice. Mechanical methods are throughout superficially treated of, and the cuts of some of the appliances represent antiquated and obsolete patterns. The absence of chapters on joint disease mars the completeness and practical usefulness of the work.

The author's surgical standpoint may be estimated by the following:

He fails (on page 408) "to see any reason for strongly advocating immediate reposition after tenotomy." There is no mention of subcutaneous osteotomy. In a Macewen's osteotomy for knock-knee the author recommends osteotomies half an inch and three quarters of an inch in width. In the operation for bowlegs a saw is used. For vicious ankylosis at the hip Adams's operation is preferred to Gant's, and both are described as done with a saw.

The book is handsomely printed on good paper, and the excellence of most of the illustrations is to be warmly commended.

*Die Krankheiten der warmen Länder.* Ein Handbuch für Aerzte. Von Dr. B. SCHEUBE, Fürstl. Physikus und Sanitätsrath in Greiz, früherem Professor an der Medizinschule in Kioto, Japan. Jena: Gustav Fischer, 1896. Pp. vi-462.

THE author of this comprehensive work has done a good service in making a compendium, literary as well as scientific, of the diseases of the tropics. With the growth of commercial relations with southern nations, physicians in the north are sure to encounter more and more of the diseases endemic in southern climes. The author divides his work into five parts, grouping the diseases under consideration according to their ætiology. His intelligent treatment of the diseases is fostered by his long residence in Japan and his extended scientific travels in southern countries.

The description of the forms of malarial fever in the South is admirable and illustrates the great differences existing between our comparatively mild types of the disease and the virulent examples it furnishes in hotter countries. The author has been uniformly successful in finding the parasite of Laveran in the most pernicious forms of malarial infection as well as in the milder types.

Among the other diseases described in this work are dengue, beri-beri, pellagra, the various parasitic diseases peculiar to southern countries, the fatal disease, the "red dog" of the Nile region, the fungus disease of India (the "Madura foot"), and the anihum of the Soudan and India.

*Affections chirurgicales du tronc* (rachis, thorax, abdomen, bassin). Statistique et observations. Par le Dr. POLAILLON, chirurgien de l'Hôtel-Dieu, etc. Paris: Octave Doyn, 1896. Pp. 550.

THIS volume gives the results of the clinical work, in diseases of the trunk, of the surgical division of the Hôtel-Dieu under Polaillon's direction, from 1879 to 1895. A rather unusual course is followed, inasmuch as



the material is grouped as to the lesions present. Statistics are given of both operative and non-operative cases. The percentage of deaths is given under each heading. In inflammation of the vermiform appendix and in typhilitis, the death-rate was higher among the patients operated on than in those not so treated; but one gathers from the subsequent text that in the fatal cases the patients were operated upon at a late date. The entire chapter on intestinal work is extremely interesting. The work abounds in the narration of rare and interesting cases and is well worth reading and preserving for reference.

*Traité d'électrothérapie oculaire.* Par le Dr. P. PANSIER, d'Avignon. Avec une préface de M. le Dr. E. VALUDE, de la Clinique nationale ophthalmologique des Quinze-vingts. Paris: A. Maloine, 1896. Pp. iv+479. [Prix, 6 fr.]

This book is composed of excerpts from the literature dealing with electricity in its relations to ophthalmology. The period covered is, briefly, from the sixteenth century to the present time. Many of the more modern observations quoted by the author are as unscientific as those of that age of empiricism when magnetism and the ideas of Mesmer were rife. If we except the galvano-cautery and the magnet used by Hirschberg for the extraction of fragments of iron from the eye, ocular electrotherapy should need no special consideration. Its action on the muscles and motor nerves is familiar, and as for the successes alleged in disease of the iris, choroid, ciliary body, retina, etc., it must be said that the statements made are not proved. It is the old story of failure to eliminate the action of Nature or other agents to which should be given the greater credit. Electricity may be an adjuvant to atropine in iritis, or, with iridectomy and tonic measures, the nutrition of the eye may be improved by electricity; but to say that it alone is to be credited with the cure of many of the cases cited by the author is absurd.

An exception may be made in favor of the treatment of angiomas of the lids and orbit by electrolysis, and possibly the treatment of detachment of the retina by this means may be of use. A larger proportion of cures of recent detachments by electrolysis is alleged than is obtained by other methods, but it must be remembered that in the case of Schöler's method the original statements have not been substantiated by later observers.

This book is not uninteresting, containing as it does some curiosities of literature, but either because the author is oversanguine or because he prefers to allow the reader to draw his own conclusions, it possesses little value as a scientific treatise and is in places decidedly misleading.

*The Diagnosis and Treatment of Diseases of the Rectum.* Being a Practical Treatise on Fistula, Piles, Fissure and Painful Ulcer, Proctidentia, Polypus, Stricture, Cancer, etc. By WILLIAM ALLINGHAM, F. R. C. S. Eng., Ex-member of the Council of the Royal College of Surgeons of England, etc., and HERBERT W. ALLINGHAM, F. R. C. S. Eng., Surgeon to the Great Northern Hospital, etc. Sixth Edition. New York: William Wood & Company, 1896. Pp. xiii+485.

It affords us pleasure to call attention to this latest edition of the Allinghams' well-known work, for in it we are provided with the modernized successor of five

previous editions whose value has been of the greatest. Although the literature of this field is not a scanty one, and though many of the works it includes are of great excellence, we venture to say that none excels this work in the thoroughness of its field and in the simple, comprehensible, and therefore forcible form in which its information is imparted. Opinions differ, of course, and in rectal surgery it would seem that these differences are in some matters pronounced; and for this very reason we rate this work the higher, for, while not lacking in progressiveness, it is, nevertheless, admirably conservative.

*Transactions of the New York State Medical Association,* for the Year 1895. Volume XII.

THESE *Transactions* are doubtless familiar to the greater number of our readers, and the volume for the year 1895 needs therefore only a mere announcement. Suffice it to say that the collection of papers herein presented is one of which the association may well be proud and one from which the professional reader will derive much that is valuable.

*Transactions of the American Association of Obstetricians and Gynecologists.* Volume VIII. For the Year 1895.

THE papers and discussions in this volume cover a wide area, and it is pleasant to note that obstetrics receives its fair share of attention, which is not always the case in societies of this kind. Fascinating as the field of gynecological surgery seems to be, and brilliant as its accomplishments have been, it should not be allowed to obscure the ever-practical and important science and art of obstetrics.

Naturally, the questions which excited the greatest interest and attention concerned the operations for the removal of the uterus and the appendix. By no means all of the speakers concurred in the fashionable method of removing the uterus by the vaginal route, or in the wholesale way in which it was being removed. We stand aghast when we learn that a certain brilliant French surgeon has removed more than six hundred uteri in the past few years.

In perityphlitis, those who are most observing and who have the largest experience are trying to convince the profession that the condition is a surgical one from the beginning, and that the results will, as a rule, be better the earlier the case is submitted to operation. But it must also not be forgotten that, however early an operation is done, in certain individuals with weak powers of resistance the issue will inevitably be a fatal one.

*Transactions of the Southern Surgical and Gynecological Association.* Volume VIII. Eighth Session, held at Washington, D. C., November 12, 13, and 14, 1895. Published by the Association.

THE papers and discussions of this volume evince the same lively interest in the surgical questions of the day that have made this society an element of great educational importance in the South in the previous years of its history.

The volume opens with a reminiscent paper on the late Dr. Marion Sims, and it is very interesting to note the numerous testimonies which the paper elicited of the esteem and love in which that great man was held. The place which he made for himself in the hearts of



the American medical profession is one which any man may well envy, and his memory becomes no less fragrant with the flight of the years since he took his departure.

*Transactions of the Royal Academy of Medicine in Ireland. Volume XIII.*

As usual, this volume contains interesting and profitable reading. Dr. J. W. Moore discusses small-pox and its treatment in a vein of high literary value, and Dr. O'Carroll and Dr. Drury add papers on the same subject. Argyria is discussed by Dr. Tweedy, who finds an excuse for administering silver salts in locomotor ataxia in the good results, ignoring the staining of the tissues. Dr. Heuston describes an operation for malignant disease of the rectum by which the attachments of the levator ani and sphincter muscles are not interfered with. He asserts that incontinence does not result from this operation. Dr. Glenn reports a number of successful cases of saline infusion from the Rotunda Hospital. Unfortunately, he does not specify the manner of infusion, but one would judge that in the majority of cases it was intraperitoneal. He advocates intra-arterial infusion. The quantity infused is unusual, from four to eight pints being employed. The transactions of the sections of pathology, state medicine, and anatomy contain interesting articles.

BOOKS, ETC., RECEIVED.

*An American Text-book of Physiology.* By Henry P. Bowditch, M. D., John G. Curtis, M. D., Henry H. Donaldson, Ph. D., W. H. Howell, Ph. D., M. D., Frederic S. Lee, Ph. D., Warren P. Lombard, M. D., Graham Lusk, Ph. D., W. T. Porter, M. D., Edward T. Reichert, M. D., and Henry Sewall, Ph. D., M. D. Edited by William H. Howell, Ph. D., M. D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Fully illustrated. Philadelphia: W. B. Saunders, 1896. Pp. 16-17 to 1052. [Price, \$6.]

*A Text-book of Histology, Descriptive and Practical. For the Use of Students.* By Arthur Clarkson, M. B., C. M., Edin., formerly Demonstrator of Physiology in the Owens College, Manchester, etc. With One Hundred and Seventy-four Original Colored Illustrations. Philadelphia: W. B. Saunders, 1896. Pp. xx-554. [Price, \$6.]

*Water and Water Supplies.* By John C. Thresh, D. Sc. (London), D. P. H. (Cambridge), etc. Philadelphia: W. B. Saunders, 1896. Pp. xv-431. [Price, \$2.25.]

*Royal Infirmary Cliniques.* By Alexander James, M. D., F. R. C. P. E., Physician to the Royal Infirmary, Edinburgh. Edinburgh: Oliver & Boyd, 1896. Pp. 167. [Price, five shillings.]

*A Text-book for Training Schools for Nurses, including Physiology and Hygiene and the Principles and Practice of Nursing.* By P. M. Wise, M. D., Medical Superintendent, St. Lawrence State Hospital, etc. With an Introduction by Edward Cowles, M. D., Physician-in-chief and Superintendent of the McLane Hospital, Boston, Mass. In Two Volumes. Vol. I. New York: G. P. Putnam's Sons, 1896. Pp. xvii-247.

*The Enlarged Cirrhotic Liver.* By Arthur Foxwell, M. A., M. D., Fellow of the Royal College of Physicians, etc. Birmingham: Cornish Brothers, 1896. Pp. 30.

*First Annual Message of Charles F. Warwick, Mayor of the City of Philadelphia, with Annual Reports of Abraham M. Beitler, Director of the Department of*

*Public Safety, and the Board of Health for the Year ending December 31, 1895.* Issued by the City of Philadelphia, 1896. Pp. xxv-241.

*Diagnostic Uroanalysis.* By M. D. Hoge, Jr., M. D., Professor of Histology, Pathology, and Urology, University College of Medicine, Richmond, Va. Richmond: George M. West, 1896. Pp. 7 to 87. [Price, \$1.]

*Report of the Commissioner of Education for the Year 1893-'94. Volume I. Containing Part I.* Washington: Government Printing Office, 1896. Pp. xlvii-1061.

*Degeneration in Criminals as shown by the Bertillon System of Measurement and Photographs.* By W. A. McCorn, M. D., Kankakee, Illinois.

## New Inventions, etc.

### AN EYELID ROLLER FORCEPS.

By W. H. LUCKETT, M. D.

THE accompanying two-thirds-size cut illustrates a new eyelid roller forceps, which can either be used for expressing the contents of the Meibomian glands, preparatory to operation for cataract, or, substituting the corrugated roller for the smooth, the forceps can be used for the expression of trachoma.

To operate, grasp the forceps with the index finger resting in the corrugated socket on the lower bar and the thumb on the corrugated knob on the upper bar.

To express the Meibomian glands, the smooth plate is inserted beneath the lids, and the smooth roller is



rolled or drawn back and forward by the thumb resting on the corrugated knob. To express trachoma, evert the lids and catch with the forceps, the smooth plate on the outer surface, the corrugated roller on the conjunctival surface, and proceed as before. The instrument does not tear the conjunctiva, is perfectly aseptic, and can be taken entirely apart.

By slightly bending apart the two tempered arms the rollers can easily be taken out and replaced.

The corrugated roller is shown full size in the cut. The instrument is made by Tiemann & Co.

## Miscellany.

**Opothopathy in Addison's Disease.**—In the *Presse médicale* for September 19th M. P. Langlois remarks that, whatever may be the mechanism of the disease, he inclines to the theory of suprarenal insufficiency, and consequently he has been led to make investigations in regard to the efficacy of opothopathy in the treatment of this disease.

If the failures, he says, are numerous, it must be recognized that it is in thyroid opothopathy that the attempts give the most favorable results. Since Vasale

and Gley, who made the first experimental thyroid injections, and Murray, who proposed the therapeutical application, clinical observations in the treatment of myxœdema by the injection or ingestion of the extract or of the thyroid substances have been numerous.

The injections of suprarenal extracts made by Brown-Séquard, by Abelson, and by the author on animals deprived of their capsules caused only a slight prolongation of life; but in the animals thus operated upon death was so rapid that all therapeutical attempts seemed to become powerless.

The first clinical trials were made by Abelson, Charin, and Langlois (*Archives de physiologie*, 1892, page 721) in a tuberculous subject who had reached the last stage, and death followed very rapidly. In two cases observed by Langlois after the injection of three cubic centimetres of the aqueous extract every three days there had been an amelioration of the asthenia; but it had been impracticable to continue the treatment in these cases, and, Langlois insisting especially upon rest, it was difficult to say how much had been due to this treatment and how much to the rest. Also in the first case the authors had noticed an abundant diuresis. The same fact having been observed in the thyroid treatment of myxœdema, and even after all organic injections, there was nothing remarkable in it. However, the investigations made by Oliver and Schaffer and by Cibulsky and Nebich with the extracts of suprarenal capsules having shown the tonic action of these extracts upon the circulatory system, it is probable that capsular extracts exercise a more intense diuretic action than other organic extracts. This diuresis, by causing a thorough lavage of the organism, may contribute also to attenuate the intoxication of Addison's disease.

Among the satisfactory cases, says the author, attention may be called to Maragliano's, in which the patients, who were completely asthenic and bedridden, were able to get up and walk after the tenth injection, and to that of Dieulafoy, in which the patient received considerable benefit during the first period of the treatment from injections containing glycerin; and the same was true in the case of a patient who came under Osler's observation. Foa, Pellacani, and Zucco also tried injections of aqueous extracts and had several cases of death which they attributed to the injections. They had investigated for the purpose of ascertaining if these products could exercise an unfavorable action on the organism, and they called attention, in fact, to several toxic symptoms which were observed experimentally in animals.

The injection of capsular extract increases the blood tension, with slackening of the pulse and acceleration of the respiration, according to Oliver and Schaffer. Cibulsky states that the extract, injected in strong doses, causes cerebral and pulmonary hemorrhage. However, says M. Langlois, although these writers admit an action which is especially exercised on the central nervous system, Velich, on the contrary, believes there is a direct cardiac action, which is accompanied, nevertheless, by a vaso-constriction.

Gluzinsky, while studying the toxicity of various extracts, found that those of the suprarenal capsules were much the most toxic. Gourfein reached almost the same conclusion, and Dubois studied the conditions which led to the difference in the toxicity of these extracts. According to Marino Zucco, the toxic substance which acts above all is neurin. Muhlmann identifies its action with that of pyrocatechin, which is, according to him, accumulated in the suprarenal cap-

sules by the substitutive reaction alone of the pyrocatechuic acid which is contained in the blood.

The substitution of the ingestion of thyroid products for the injections which have been commonly practised since Horvitz's communication should lead to a trial of the same method with suprarenal capsules, especially as Schaffer has ascertained that the extract of suprarenal capsules, digested with artificial gastric juice, preserves the physiological properties which he had found in the normal juice. Oliver tried this treatment by the gastric tract, and in two cases he obtained a very distinct amelioration; the subjects increased in weight and the pigmentation became diminished; the gastric symptoms, the vomiting, and the anorexia were completely suppressed. Rolleston also observed good results in a patient to whom he gave forty-five grains a day.

Dupaigne obtained successful results in seven cases, and Bécélère relates a very interesting case in which the lumbar pains and the vomiting disappeared, the pulse improved, and the pigmentation became less. In this case recovery has lasted for eighteen months.

These observations, says M. Langlois, are sufficiently interesting to permit of the conclusion that opotherapy is a legitimate treatment in Addison's disease. The capsules should be given in the form of pulp in preference to pieces of capsules. This pulp is obtained by scraping the capsules which have been cut in two and reduced by boiling. The mode of ingestion may vary; bouillon, unleavened bread, or soup made of peas or potatoes make an excellent vehicle in which to administer it. According to Pettit, says M. Langlois, the capsules of calves or of other young animals are to be preferred, as the glands are more active in the young. Dieulafoy uses the dried glands in capsules of gelose, and that is the way in which Huchard also employs the treatment in neurasthenia of other origin. In cases of anorexia nemata containing the pulp finely minced, according to a procedure employed by Lissier, seem to be indicated in the treatment of diabetes with pancreatic pulp. The amount given should not exceed forty-five grains a day. It is also useful to employ oxygen inhalations, which gave such successful results in Dupaigne's cases. Such is the treatment, says the author, and, although a definitive cure can not be assured, we may hope for some amelioration.

**The Vermont State Medical Society.**—The eighty-third annual meeting will be held in St. Johnsbury, on October 15th and 16th, under the presidency of Dr. C. F. Branch, of Newport. The programme includes the following papers: The president's address—The True Physician, or the Old and the New; Obituary of Professor C. P. Frost, by Professor William T. Smith, of Hanover, New Hampshire; Opium, its Use and Abuse, by Dr. F. W. Comings, of Derby; The Practice of Medicine in 1858 and in 1896, by Dr. Lyman Rogers, of Bennington; The Management of Acute Peritonitis from a Medical Standpoint, by Dr. W. H. Vincent, of Orwell; The Mineral Springs of Vermont, their Therapeutic Effects, etc., by Dr. E. M. Brown, of Sheldon; Twelve Years' Practice of Obstetrics, by Dr. J. Sutcliffe Hill, of Bellows Falls; Obstetrics, by Dr. F. R. Stoddard, of Shelburne; Hernia and its Cure, by Dr. Henry O. Marcy, of Boston; Diseases of the Rectum, by Dr. D. C. Hawley, of Burlington; Inebriety and its Treatment, by Dr. W. S. Nay, of Underhill; A Class of Fatal Cases presumably Due to Intestinal Ptomaines, by Dr. E. D. Ferguson, of Troy, N. Y.; The Operation of



Shortening the Round Ligaments, its Indications and Technics, by Dr. E. H. Ross, of St. Johnsbury; Some Observations on Preventive Medicine, by Dr. J. Henry Jackson, of Barre; Intestinal Obstruction, by Dr. W. R. Prime, of Burlington; Puerperal Fever, by Dr. J. M. Hamilton, of Proctor; The Discovery of Ether, by Dr. W. J. Aldrich, of St. Johnsbury; and The Value of *Cimicifuga Racemosa* in Pregnancy and Labor, by Dr. F. C. Kinney, of Greensboro.

**The Occurrence of Nutritive Fat in the Human Placenta.**—In a preliminary communication published in No. 359 of the *Proceedings of the Royal Society*, Dr. Thomas Watiss Eden says that recently, while examining specimens of ripe placenta for fatty degeneration, he was struck by the regularity of the occurrence of fat in this structure, and especially by the nature and extent of its distribution. He was then led to examine a series of specimens taken at different periods of gestation, with the result that a free deposit of fat was found in ten different placenta, all of which he believes to be non-pathological, and ranging practically through all periods of gestation, from the sixth week up to term.

The method employed for the demonstration of this fat was to take slices from different parts of the placenta, and harden them for a few days in Müller's fluid; then to transfer thin strips, not exceeding one third of an inch in thickness, to Marchi's fluid (a 1-per-cent. solution of osmic acid, 1 part; Müller's fluid, 2 parts) for a week. The pieces were then imbedded in paraffin, cut with a rocking microtome, and stained lightly with safranin, eosin, or logwood and eosin, or mounted unstained. By this process the fat is completely blackened, while the other tissues retain their normal staining reactions, so that the outlines of the fat-containing cells can be distinctly made out. By this method he has been able to demonstrate the constant occurrence of fat in certain well-defined regions of the human placenta.

In the young human placenta, the epithelial covering of the villi consists of two layers, a superficial, nucleated, plasmodial layer, and a deep cellular layer. In a six weeks' ovum he found fat in the form of minute droplets in both these layers, but much more abundant in the former than in the latter. These fat droplets show comparatively little variation in size, and they remain discrete, showing little or no tendency to form larger droplets by fusion; they are confined to the circumnuclear protoplasm, and are never found in the nuclei, which remain unaltered in number, form, and arrangement. The stroma of these villi contains here and there a trace of fat, but it is apparently healthy, and is furnished with well-formed wide capillaries filled with blood. The villi are, in fact, to all appearance healthy. Every villus does not show this deposit of fat, but it is present in very large numbers of them; in every field of the microscope several villi containing fat may be found. The amount of fat also varies considerably.

In a young ovum the plasmodial layer of the villi shows great proliferative activity; it throws out numerous club-shaped processes or buds, which represent the first stage in the development of new villi. These buds very frequently contain large numbers of minute fat droplets. He believes that this is a point of very great importance, showing, as it does, that the deposit of fat occurs in actively growing tissues of undoubted vitality.

In the ripe placenta the proliferation of the plasmodial layer has ceased, and degenerative changes are present in scattered regions. But, of course, the great majority of the villi retain their vitality, and in these

villi a free deposit of fat is present, showing the same distribution and characters as in the young placenta.

He has also found a similar deposit of fat in the serotina. The six weeks' ovum, above referred to, showed very many decidual cells containing minute, discrete droplets of fat in the circumnuclear protoplasm. A placenta of the sixth month also showed an abundant fat deposit in the same region. At term, the serotina shows many degenerative changes, and although it contains fat, it may well be doubted whether, at this period, this is a physiological deposit.

The placenta, indeed, appears to be a storehouse of nutritive fat, just as the liver is. This appears to throw some light on what has long been one of the problems of foetal physiology, viz., the source from which the foetus obtains its supplies of fat. Diffusible substances, such as sugar, salts, peptones, etc., have been supposed to pass by osmosis from the maternal blood in the intervillous spaces to the foetal blood in the villi. But this could not be assumed of indiffusible substances, such as fat. The truth would seem to be that fat is deposited from the maternal blood in the epithelium of the villi, and stored up there by the foetal tissues for their use. No great accumulation of fat occurs, as it appears to be from time to time absorbed and disposed of by the foetal circulation. It is, however, not altogether clear how a deposit of fat in the decidual cells can be made available for the purposes of foetal nutrition.

Since finding this fat deposit in the human placenta, Dr. Eden has begun a series of comparative observations upon the placenta of other mammals. Up to the time of writing, he has examined two rabbits' placenta, one from an early, and the other from a late, period of gestation. In both there was a marked deposit of fat, chiefly in the superficial glandular layer of the maternal placenta, but also, though to a lesser extent, in the processes of the chorionic mesoblast, which form the homologues of the villi of the human placenta.

The author then refers to Apfelstedt and Aschoff's recent discovery of fat in the placenta.

**The New York State Medical Association** will hold its thirteenth annual meeting in the Mott Memorial Hall, New York, on Tuesday, Wednesday, and Thursday, the 13th, 14th, and 15th inst., under the presidency of Dr. Darwin Colvin. The programme gives the following titles: The Technique of Intubation in Children, Some Remarks on the Time for Operation and After-treatment, by Dr. Thomas J. Hillis, of New York County; Functionless Organs, Are there Any? Possible Use of the Appendix Vermiformis, by Dr. Nelson L. North, of Kings County; The Elongation of Retracted Muscles in Clubfoot, by Dr. T. M. Ludlow Chrystie, of New York County; Special Report on Criminology, by Dr. Austin Flint, of New York County; Brief Comments on the Materia Medica, Pharmacy, and Therapeutics of the Year ending October 1, 1896, by Dr. E. H. Squibb, of Kings County; a discussion on Prostatic Enlargement (to be opened by Dr. J. W. S. Gouley, of New York County, propounding the following questions: What is the nature of prostatic enlargement? How is prostatic enlargement recognized? What are the effects of prostatic enlargement, and how may they be counteracted? When is operative interference indicated, and what operations may be safely performed for prostatic enlargement?—these questions to be discussed by Dr. Samuel Alexander, of New York County; Dr. William S. Trowman, of Erie County; Dr. Donald Maclean, of Detroit; Dr. W.



G. Brownson, of Noroton, Connecticut; Dr. Douglas Ayres, of Montgomery County; and Dr. John A. Wyeth, of New York County; The Treatment of Faecal Fistula, with Reports of Cases, by Dr. Frederick Holme Wiggin, of New York County; Amputation of the Lower Third of the Leg with a Periosteal Flap, by Dr. Joseph D. Bryant, of New York County; Suture of the Liver for Incised Wounds, by Dr. Stephen Smith, of New York County; An Operation for Rectal Hemorrhoids and Prolapse by Submucous Ligature, by Dr. Benjamin M. Ricketts, of Cincinnati; The Practical Uses of Röntgen's Discovery as applied to Surgery, with Illustrations, by Dr. Reginald H. Sayre, of New York County; The Treatment of Otorrhœa, and its Importance, by Dr. Edward B. Dench, of New York County; The Relation of Nose and Throat Affections to Diseases of the Ear, by Dr. Frank S. Milbury, of Kings County; Temperature as an Element in Prognosis, by Dr. John Shradly, of New York County; Diphtheria, by Dr. Thomas G. Acker, of Westchester County; On the Treatment of Inebriety, by Dr. T. D. Crothers, of Hartford, Connecticut; Further Remarks on the Domestic Test for Albumin in Urine, by Dr. John G. Truax, of New York County; A New Microtome, and A Successful Plaster-of-Paris Bandage Cutter, by Dr. Sidney Yankauer, of New York County; The Physiological Deductions regarding the Usefulness of so-called Animal Extracts, by Dr. H. A. Haubold, of New York County; Two Interesting Cases of Surgery of the Kidney, by Dr. J. E. Janvrin, of New York County; Recent Investigations concerning Eclampsia, by Dr. William T. Lusk, of New York County; Puerperal Eclampsia Studied with Reference to Pathogenesis and Therapeutics, by Dr. George T. Harrison, of New York County; The Palliative Treatment of Cancer of the Cervix and Bladder in Women, by Dr. Nathan G. Bozeman, of New York County; Rare Complications in Two Cases of Hysterectomy, by Dr. Ely Van de Warker, of Onondaga County; One Point in the Treatment of Endometritis, by Dr. William H. Robb, of Montgomery County; an address in surgery, by Dr. Charles Phelps, of New York County; The Vitality of Cutaneous Epithelium, with a Report of Clinical Observations in Skin-grafting, by Dr. Zera J. Lusk, of Wyoming County; Acute Amnesia, by Dr. William D. Granger, of Westchester County; The Duty of the Public to the Physician, by Dr. William M. Bemus, of Chautauque County; Supplementary Notes upon Tendon-grafting and Muscle-transplantation for Deformities following Infantile Paralysis, by Dr. S. E. Milliken, of New York County; The Medico-legal Aspect of Prison Reform, by Dr. Ernst H. Schmid, of Westchester County; Auscultatory Percussion, by Dr. Louis L. Seaman, of New York County; Druggist *versus* Doctor, by Dr. Henry C. Van Zandt, of Schenectady County; The Peripheral Neuralgias, Traumatic and Toxic, by Dr. Thomas H. Manley, of New York County; The Passing of Venesection, by Dr. H. D. Didama, of Onondaga County; and A Class of Fatal Cases, presumably due to Intestinal Ptomaines, by Dr. E. D. Ferguson, of Rensselaer County.

**Formaldehyde in the Treatment of Gonorrhœa in Women.**—It is stated in one of the June numbers of the *Semaine médicale* (cited in the *Revue internationale de médecine et de chirurgie*, September 10, 1896) that Professor De Smet, of Brussels, has obtained excellent results with this remedy in more than sixty cases in which he has employed it. After washing the vulva with a warm one-per-cent. aqueous solution of formaldehyde

(or formal or formalin), he introduces a speculum and pours into the vagina a stronger solution, one of from two to five per cent. Then with a swab he works the solution into intimate contact with all the nooks and crannies of the vagina and the cervix uteri. If the cervico-uterine cavity is affected, he injects a two-per-cent. solution into it. If the cervix is ulcerated, he places a large tampon of cotton and gauze impregnated with a one-per-cent. solution in the vagina, and leaves it there for two or three hours. These applications are said to be painless. They are to be repeated daily or every second day, according to the features of the case.

In a one-per-cent. solution, formaldehyde exerts a slightly caustic action, which is shown by a blanching of the mucous membrane. In a five-per-cent. solution, especially in a vaginal tampon impregnated with it, it produces a veritable burning of the mucous membrane, but this action is transitory and causes no inconvenience. A diminution of the discharge takes place after a few applications, and it soon ceases altogether. Severe cases, especially those in which there is fungous blennorrhagic endometritis, call for more prolonged treatment and occasionally for operative interference, by curetting, for example, but even in these cases formaldehyde is the most efficacious adjunct that can be used. Its action is so rapid and so sure that it should be used in all cases of gonorrhœa in women.

**Picric Acid in the Treatment of Superficial Burns and Scalds.**—The treatment of such injuries, says Mr. D'Arcy Power (*British Medical Journal*, September 12, 1896), has long seemed to be most unsatisfactory, for they are attended with an unnecessary amount of inflammation, while the act of renewing the dressings is unduly painful. From time to time he has tried various methods of treatment, and has come to the conclusion that the picric-acid treatment is by far the simplest and the most satisfactory. The method is well known in France, where it has been extensively used by Professor Thiery, while Dr. Filleul and Dr. Papazoglou have done their best to disseminate a knowledge of its value. Mr. Power does not therefore claim the least merit for himself, but he finds that so few practitioners know of it that it is perhaps worth while to draw attention to it.

The solution of picric acid is made by dissolving a drachm and a half of picric acid in three ounces of alcohol, which is then diluted with two pints of distilled water. This is a saturated solution of picric acid.

The clothing over the injured part should be gently removed, and the burned or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton soaked in the lotion. Blisters should be pricked, and the serum should be allowed to escape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries, and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly well moistened with the picric-acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

The great advantages of this method of treatment are: First, that the picric acid seems to deaden the sense of pain; and, secondly, that it limits the tendency to

suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

Mr. Power has used this method for more than a year in hospital practice among both out-patients and in-patients, and he says he has every reason to be thoroughly satisfied with the results obtained. It is not an ideal method, for it stains the clothes and discolours the hands of the surgeon, but it is a great improvement upon anything else he knows of.

**The American Pædiatric Society's Second Diphtheria Antitoxine Collective Investigation.**—We have been asked to publish the following:

*"To the Profession:*

"The American Pædiatric Society are encouraged to ask the co-operation of the profession in a further collective investigation. Laryngeal diphtheria is believed to furnish a crucial test for antitoxine; the present aim is to ascertain (1) what percentage of persons with laryngeal diphtheria recover without operation under antitoxine treatment; (2) what percentage of those operated on recover.

"The society asks for records of cases of *diphtheria involving the larynx, whether an operation is performed or not, occurring in private practice in the United States and Canada, treated with antitoxine*. It is expected that cases occurring this year will probably be treated with reliable preparations of the serum, that they will be treated early, and that efficient doses will be given.

"In order to secure data which shall make the tables complete, circulars containing blanks for ten cases have been printed and are now ready for distribution. It is desired that physicians shall fill out the circulars as cases occur, not trusting to memory, and shall urge their friends having similar cases to record them. Circulars can be had by applying to the committee (address below). Several groups of cases in the first investigation arrived too late and were lost to the report. It is desired that circulars as soon as filled (ten cases) be returned to the committee. The collection of cases must close at the end of March, 1897.

"The second report is designed to be a study of cases occurring between the closing of the first report, May 1, 1896, and the closing of the present collective investigation, April 1, 1897.

"For extra circulars (blanks), for returning circulars (filled out), and for further information please address the chairman of the committee,

"W. P. NORTHROP, M. D.,

"57 East Seventy-ninth Street.

"New York, N. Y."

At Dr. Northrup's request, we here reprint a portion of the record of the action taken by the society on the first report, as follows:

#### THE ACTION OF THE SOCIETY UPON THE (FIRST) REPORT.

(1) *Dose*.—For a child over two years old, the dose of antitoxine should be, in all laryngeal cases with stenosis, and in all other severe cases, from 1,500 to 2,000 units for the first injection, to be repeated in from eight- to twenty-four hours if there is no improvement; a third dose to be given after a similar interval if necessary. For severe cases in children under two years, and for mild cases in those over that age, the initial dose

should be 1,000 units, to be repeated as above stated if necessary; a second dose is not usually required. The dose should always be estimated in antitoxine units and not in the amount of serum.

(2) *Quality of Antitoxine*.—The most concentrated strength of an absolutely reliable preparation.

(3) *Time of Administration*.—Antitoxine should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

#### Artificial Serum for Washing out the Serous Cavities.

—M. Mengus (*Indépendance médicale*, July 22, 1896; *Revue internationale de médecine et de chirurgie*, September 10, 1896) relates two cases. The first was a case of hydrocele of the tunica vaginalis testis that had relapsed after the employment of an injection of tincture of iodine. It was cured by injecting a boiled and filtered 0.70-per-cent. solution of sodium chloride at the temperature of 104° F.

The second case was one of ascites in a patient with heart disease. Paracentesis had had to be performed six times in the course of five months, and the man was becoming cachectic. The seventh puncture was followed by the injection of about a quart of the same solution at the same temperature. After massage, about three quarters of the amount was withdrawn. The patient regained his general health, and at the time of the report, three months afterward, no further effusion had taken place.

**Infanticide and Hysteria.**—The *Indépendance médicale* for September 16th condenses from the *Archives de neurologie*, No. 102, an account of a case showing the difficulty of estimating the degree of a woman's moral responsibility at the time of her delivery. A laboring girl living in the country, of gentle manners, had already had one child, which she loved and was bringing up properly, when she gave birth to another viable child, which she strangled. Her neighbors informed against her and she was arrested. At first she denied that she had been confined; then she admitted the confinement, but continued to deny the infanticide, which the report of the medical examiner demonstrated with certainty. Shortly after her incarceration she had delirious attacks. M. Callerre, who was charged with the examination, concluded that she was not insane and had not been at the time of her crime; that she was, however, affected with grave hysteria, and that the disease had caused in her a real impairment of mental balance which should be taken into account in seeking to ascertain her moral responsibility. After having considered this report, the public minister abandoned the prosecution, thinking no doubt that before a jury it could end only in acquittal pure and simple.

#### The New York Hospital Training School for Nurses.

—A reception was held in the administration building, No. 8 West Sixteenth Street, on Wednesday evening, October 7th, by the graduating class, consisting of Miss Frances H. Coe, Miss Mary Vroom, Miss Anna L. R. Mines, Miss Georgia L. Wilkie, Miss Susan V. Gifford, Miss Anne A. Williamson, Miss Isabel H. Peet, Miss Mary E. Hutchison, Miss Fannie L. Morris, Miss Annie E. Parsons, Miss Maude H. Walker, Miss Florence Taylor, Mrs. Margaret L. Rogers, and Miss Florence H. Linton.



Original Communications.

FURTHER NOTES ON  
THE PATHOLOGY AND TREATMENT OF  
GRAVES'S DISEASE.

By W. H. THOMSON, M. D., LL. D.,  
PROFESSOR OF THE PRACTICE OF MEDICINE  
IN THE NEW YORK UNIVERSITY.

(Second Article.)

THE various hypotheses about the pathology of Graves's disease which would ascribe it to some affection of the sympathetic, or of the bulbar centres, etc., have been gradually abandoned of late from lack of characteristic anatomical changes being discoverable anywhere in the nervous system which could be demonstrated as holding a constant relationship to the disease. Recently, however, the striking clinical contrasts between the lately demonstrated affection myxœdema and Graves's disease naturally have given origin to a new theory of the latter as the exact opposite of the former. For, whereas myxœdema is caused by atrophy of the thyroid gland with cessation of its secretion, Graves's disease is supposed to be due to hypertrophy of the thyroid gland and excess of its secretion. One of the most recent advocates of this theory, Dr. M. Allen Starr (*Medical News*, April 18, 1896), points out first that the clinical features of the two diseases are so opposed to each other, symptom for symptom, and the condition of essential cellular atrophy in one is so matched by cellular hypertrophy in the other, that we may properly conclude that an excess of thyroid juice poured into the blood by the enlarged gland is the primary cause of the complaint. In answer to the objection that the severity of the symptoms in many cases of Graves's disease does not bear any appreciable relation to the condition of the gland as regards hypertrophy, Dr. Starr answers that a gland may be secreting excessively without appearing at the time to be enlarged, and he instances the parotids during salivation as an illustration.

I have little objection to this theory, except that it is advanced as an ultimate fact in which we may rest as we do when we come to ultimate facts. One effect of such satisfaction with the theory is to act thereupon, and propose to excise the misbehaving gland. But this is too much like telling a patient with salivation that he has too active parotids, and that it may be needful to cut them out on account of their overactivity, instead of asking first why a secreting gland should pour out an undue quantity of secretion. We shall be answered, of course, that such poisons in the blood as mercury or jaborandi are too well known causes of salivation to justify any one in leaving out a sialogogue in the circulation as the probable cause of this particular hypersecretion. But why should the thyroid gland be considered capable of simply exciting itself to a fatal activity?

What parallel instance is there anywhere in the glandular system of primary and spontaneous overaction? To this it may be replied that glands which discharge their secretions through ducts like the parotids are not the proper counterparts of the thyroid, which belongs rather to the ductless glands, like the spleen and the adrenals. The spleen easily enlarges like the thyroid, and the effects of its disorders are often very marked. Splenic enlargement also from malarial infection, etc., often varies remarkably from time to time, just as the thyroid does in Graves's disease. But if such analogies between the engorgements and hypertrophies of these two glands respectively prove anything, they simply render it probable that supersecretion in a ductless gland is as much dependent upon something circulating in the blood as with any other gland, such as the kidney in diabetes. Moreover, as chronic irritation sometimes produces such an interstitial hypertrophy of the spleen as to render splenectomy in some cases advantageous, so may the thyroid become likewise permanently overgrown, and hence, in a few cases, its partial excision may be useful. We can the more readily grant this because of the recent advances in our knowledge of the speedy adjustment of the system to removal of large amounts of adenoid or glandular tissue by the vicarious action of accessory glands on the one hand, or by rapid regeneration of the original gland tissues from apparently insignificant portions left behind. The spleen, in fact, seems as capable of renewing itself as the amputated claws of a crab. In dogs it may be excised to the extent of leaving only a portion not exceeding two drachms; and yet in six months the whole organ will be found regenerated (*Virchow's Archiv*, Bd. cxli, p. 201). Likewise, it is very probable that accessory thyroid glands may soon grow, to furnish in many cases all that is needed by the economy, after the main portion of the thyroid has been removed, a fact which has already been proved experimentally in animals by Gley,\* Hurtle,† and others. How little gland tissue is required to supply a ferment of vital importance to the system is shown in the case of the pancreas. As is now well known, total extirpation of the pancreas inevitably causes fatal diabetes in dogs and other animals, which is not due to suppression of the secretion of the pancreatic juice, for this may be prevented from entering the intestine by ligation of the pancreatic duct, or by destroying the cells which elaborate this secretion by injecting the duct with plaster of Paris, and yet in neither case will diabetes be produced. Nor will diabetes follow if three fourths of the pancreas be excised, while it certainly follows if the remaining fourth of the gland be then removed; all of which shows that the ferment which is necessary for the proper metabolism of the saccharine elements is the

\* *Archives de physiologie*, Paris, October, 1893.

† *London Journal of Longevity*, July, 1894.



product of cells in the pancreas which are wholly distinct from the cells in it which elaborate its ordinary secretion, and, moreover, that these ferment cells are sufficient, though relatively so few in number. We should be prepared, therefore, to admit that partial thyroidectomy might be of service occasionally in a few cases of chronic Graves's disease without its proving in the least that Graves's disease is primarily due to hypertrophy of the thyroid gland, any more than an enlarged spleen in a patient who has suffered from chronic malarial disease is due to such a thing as spontaneous overaction and hypertrophy of that viscus. For it may be very properly asked here, When are affections of the spleen primary, and the cause rather than the effect of toxæmia, or else of disease elsewhere than in the spleen? In comparison with secondary enlargements of the spleen from intoxication of the blood, primary hypertrophy of the spleen is so rare that its very occurrence is extremely doubtful.

As was explained in my former communication, my attention was first directed to the possible connection of the essential symptoms of Graves's disease—notably the evidences of general vasomotor paralyses, tachycardia, and tremor—with the presence of absorbed ptomaines in the blood, by the unmistakably beneficial effects of a particular article of diet, conjoined with total abstinence from meat in a severe case of the disease. The relation of the symptoms to the food, rather than to the thyroid gland of the patient, was so repeatedly shown in the course, and finally in the fatal termination of the disease, that I beg leave to cite the clinical details again. With this patient I had previously tried a great variety of recommended remedies. Belladonna, arsenic, silver nitrate, digitalis, the bromides, and the iodides had been given in turn without satisfactory results. The diarrhoea continued for many weeks unchecked by astringents, and the emaciation increased with the rapid pulse, excessive nervousness, and insomnia. At last I recommended a complete change of diet, and ordered that the patient, who was now confined to her bed by her weakness and tremor, should be fed exclusively with matzoon and stale bread. The change for the better on this diet was surprisingly rapid and progressive. The diarrhoea stopped without medicines, both her nervousness and sleeplessness improved, and finally the pulse became remarkably lessened. After four months she had so much improved that, contrary to my advice, she discontinued the matzoon and began to resume a meat diet, of which she always had been fond. Two months after this, on her return from the country, I found that all her symptoms had recurred, including the diarrhoea. She again was put on matzoon, and again she improved, and this time she continued the milk for about six months, with such a gain in flesh and color that she felt that she was well. She then went back to her ordinary diet, and I did not hear from her for some time, when I was called, to find her now worse

than ever, because of the development of mental symptoms of both irritability and obstinacy, which she had not shown before. She declared that she would rather die than take the matzoon, and nothing would persuade her to take milk in any form. One day I was sent for to see her because she seemed to be so low. I found her pulse to be with difficulty countable, and she had delirium with hallucinations. While I had my finger on the pulse, trying again to count it, it suddenly stopped, her pupils dilated, and the patient was dead with scarce a perceptible struggle.

Now in this case a change of diet effected what drugs had quite failed to do; and then a first return to a meat diet brought back a return of the disease, then to be again and unmistakably arrested by discontinuing meat and resuming milk; and, lastly, a second return to meat brought back a fatal return of the disorder. In such an instance as this it is as difficult to deny a causal relation between the food taken and the resultant symptoms as it would be in a case of diabetes upon restriction and then upon indulgence in starchy food. Nor, upon a similar showing again and again in other patients with Graves's disease, as detailed in the present paper, do we see any more reason to charge the thyroid gland with being the one cause of the systemic symptoms than we would ascribe the emaciation and fatal weakness of diabetes to overaction of the kidneys. There must be some reason for the overaction of these glands in either case, and if diet markedly influences that overaction in both, respectively, then the primary disorder must be in food assimilation and not in the glands. If the whole train of the symptoms of Graves's disease can be relieved best by letting the thyroid alone, and directing attention instead to the proper management of the alimentary canal by appropriate diet and by the administration of intestinal antiseptics, then the origin of the auto-infection is much more likely to be in the alimentary canal than in the hypothetical and unexplainable hypersecretion of the gland which, on any view of its little-known functions, can hardly be called an excreting gland.

The only considerations which are adduced with plausibility in support of thyroid hypersecretion as the cause of Graves's disease are the effects of overdoses of thyroid extract, and some reported cases of apparent cure of Graves's disease by more or less extensive removals of the hypertrophied gland. It is true that the administration of thyroid extract does produce a quasi-febrile state, with symptoms of arterial and cardiac excitement. Thyroid extract, therefore, aggravates in patients with Graves's disease all their more characteristic symptoms, as happened in Case XI of this report, in which the patient had the extract prescribed for her by a Boston physician with the effect, as she maintained, of becoming much worse from it.\* But while it may be

\* J. J. Putnam (*Brain*, 1894), however, reports a case in which it seemed to do good, and such cases are also reported by other physicians, both European and American; but I should rather ascribe such results to

admitted that the natural secretion of the thyroid gland may be of the nature of a vasomotor excitant, and that an undue quantity of it in the blood may produce corresponding symptoms, yet this is going but a little way toward explaining why its secretion should ever be in undue quantity for months at a time. Nervous irritation can scarcely account for it, for what can keep up such a permanent irritation? As Fodge remarks: "Some writers have endeavored to account for all the phenomena of Graves's disease on a theory of irritation. But it is a sufficient objection to such a view that a primary irritation of a nerve centre, lasting for months or years unchanged, is as yet unknown to pathology."

On the other hand our knowledge, though still too imperfect, about the corrective action of the liver, spleen, and lymphatic glands against auto-infection during the processes of digestion and of metabolism of the body renders it just as probable that the first cause of thyroid overactivity in Graves's disease is due to a greater demand than normal upon the gland to neutralize the presence of absorbed poisons, just as salivation means a poisonous excess in the blood of excitants of the parotid cells. Moreover, that a ductless gland once hypertrophied may continue to act injuriously after the original cause of its overaction has diminished or ceased is shown in the benefit which has followed in some cases upon the removal of the spleen, but I hold that, after all, time is yet to show whether the relief is permanent, and whether such surgical treatment of Graves's disease is not more in the direction of treating the effect instead of the cause of the disease.

Meantime it seems to me that the clinical facts militate strongly against any exclusive thyroid pathology of Graves's disease. As has been already conclusively shown, there may be nothing in a fatal case of Graves's disease to suggest that there was anything the matter with the thyroid. Dr. Starr's supposition that, nevertheless, in such cases the gland may be secretly pouring poisonous quantities of its juice into the blood, has the advantage of all gratuitous hypotheses that they can be neither proved nor disproved. But, as we have already contended, the absence of any condition or symptom from an unmistakable case of a given disease, no matter how prominent it may be in other cases, at once proves that it holds only an accessory and not an essential or causative relationship to the malady. Exophthalmic goitre, without either exophthalmia or goitre, shows not only that we have chosen a most unlucky name, but also that we may have fixed upon the wrong seat altogether of the complaint. Goitre is an enlarged thyroid, but if the thyroid will not enlarge, or does so and then subsides again without any reference to the other symptoms, it indicates as plainly as any clinical

symptom can indicate that at the most it is a common accompaniment rather than the essential element in the disease. Thus, in Passler's series of fifty-eight patients at the Jena Poliklinik, ten had no goitre and thirty no exophthalmia.\*

Nor does the most recent verdict of pathological anatomy teach any other lesson, for different observers vary as often in their accounts as clinical observations do with regard to the conditions found in the thyroid gland. Professor Greenfield † finds great hyperplasia of the secreting structure, and argues that this proliferation suggests increase of secretion. On the other hand, Joffroy and Acard ‡ give the results of six autopsies. The different thyroids presented a great diversity in appearance, but according to them there is no clear line of distinction between the condition of the thyroid in Graves's disease and in simple bronchocele. Vanderhelde and le Bœuf, § from their examinations of the thyroid in four cases, emphatically reject the theory of increased thyroid activity, stating that the goitres in their cases resembled anatomically ordinary goitres. A. Maude, in a series of valuable papers, || says that "There is a gradual growth of the opinion that the symptom complex is due to the production (or non-elimination) in the thyroid itself of some toxine which acts on the whole nervous system, but that we are in the dark as to whether this morbid change is primary or secondary to some vasomotor disturbance elsewhere."

In his second communication, however, he suggests that "this toxine may be first formed in the alimentary canal, and then remain in the circulation on account of excessive disturbance of the thyroid." So far, therefore, as the histological condition of the thyroid in persons dying with Graves's disease goes, it does not give any clearer indications of the cause of its engorgement, when it is engorged, than any other viscus—*e. g.*, the spleen—in a like state.

What the functions of the thyroid gland are in health can be surmised only from the symptoms which occur upon its atrophy, or from thyroidectomy, either on account of disease in man, or experimentally in animals. Now, whatever be the explanation of the phenomena of myxœdema, there can be no doubt that as important a relation has been experimentally demonstrated of the thyroid to the assimilation or metabolism of some of the nitrogenous elements of food as in the case of the pancreas to the assimilation of the saccharine principles. As mentioned in my former communication, Breisacher finds that meat and meat extractives exert a poisonous influence on dogs after thyroidectomy. Ewald found the same results in dogs, but less in rabbits, whereupon, suspecting that the dif-

\* *Deutsche Zeits.*, Heidelberg, B. vi, p. 21.

† *British Medical Journal*, December 9, 1893.

‡ *Archives de médecine expérimentale*, Paris, November, 1893.

§ *Journ. de méd. de Bruxelles*, March 3, 1894.

|| *Brain*, 1894. *British Medical Journal*, October 21, 1893; June, 1896.

the fact that the thyroid was beginning to atrophy from previous overstimulation, for myxœdema as a sequel of Graves's disease is by no means rare.

ference was due to the difference between these animals in their food, he experimented upon pigeons and found that in their removal of the thyroid did not affect their health. Benissovich\* finds that thyroidectomized dogs succumb on a meat diet, while the number and intensity of the symptoms are diminished on a milk diet. Rosenblatt,† in an extensive series of similar experiments, strongly emphasizes the poisonous effects of a meat diet. Moritz,‡ of Vienna, also points out, in a series of observations on cases of congenital absence of the thyroid gland, that the consequences do not arise till the feeding is no longer with milk.

Clinically, also, from Charcot down, it has been repeatedly reported that a milk diet proves beneficial in Graves's disease. Now it is a significant fact to which Chittenden has drawn attention, that a smaller proportion of bacteria are found in the fæces, both in animals and in man, when fed upon milk than when fed upon any other diet, whether animal or vegetable. These facts, taken in connection with the constant presence of digestive disturbance, notably of persistent diarrhœa, are certainly suggestive of gastro-intestinal auto-infection from products of the digestion, particularly of meat and similar highly nitrogenous articles of food. This relationship to digestive disorder is further borne out by the great preponderance of female compared with male patients with this disease. It would be difficult to imagine that the thyroid itself differs so much between the sexes, but the digestive disturbances of women, both at the beginning of menstruation and at its cessation, are exactly paralleled by the greater frequency of Graves's disease occurring in women coincident with the influence of these periods.

*Treatment.*—My treatment of Graves's disease, based upon the view of its origin from gastro-intestinal ptomaine poisoning, is as follows: 1. I regard the management of the diet as important in this complaint as it is in diabetes mellitus, meat being as poisonous in Graves's disease as saccharine food is to diabetics. As in the latter malady a brief indulgence in starchy food is often followed by a prolonged increase in sugar excretion, even after a strict diet has been resumed, so I have noted repeatedly how long it takes a patient with Graves's disease to recover from a short indiscretion with meat. A disinclination to keep to milk as the chief article of food is always discouraging, and it was in the two fatal cases reported that the patients positively refused to continue it. It is well, therefore, to begin by insisting upon the absolute necessity of the milk diet being kept up for two years, if the patients expect to get well. It is to a departure from this rule that I would ascribe the occurrence of either relapse or failure of cure. Such being the relation of milk to the cure of the disease, it becomes essential that the milk itself be artificially

made digestible. It is from neglect to do this that this regimen ever proves unsatisfactory. Now it is doubtful whether the majority of adults can digest fresh milk in any quantity continuously, unless the stomach is spared the task of the initial curdling of the milk with its own juices, which is a necessary preliminary to its final digestion. At least that would seem to be the verdict of mankind in all cases where milk is the only staple of entire peoples, such as the Tartars, Bedouins, and other pastoral peoples, who invariably ferment the milk before using it, the ferment in each case being derived from yeast. As stated in my former article, this fermented milk is probably the most digestible food that can be found, and I have relieved more cases of vomiting from organic diseases of the stomach with it than by any other one article.\*

Where matzoon is not procurable, several of my patients have done very well with peptonized milk. Lactic acid and pepsin may also be taken after fresh milk, though, in my opinion, not quite so good as Fairchild's peptonic powders. Others again have had recourse to equal-part dilutions of milk with Vichy or limewater. Besides the milk diet I allow a moderate use of fish, and no more than one egg a day. Bread may be taken freely. Among the vegetables, potatoes, corn, beans, and peas are injurious if there be a tendency to diarrhœa. When this complication has persisted for some time, care has to be taken to avoid both vegetables and fruits. Asparagus is mischievous, and often oatmeal also, but tomatoes in salad with lettuce generally agree. I allow no pastry or cakes, except gingerbread, which seems to agree very well, taken with the milk, perhaps on account of the antiseptic effect of the ginger. Of the beverages, I would prefer that neither coffee, tea, nor cocoa be taken. One patient of mine brought on quite a relapse with beer, and I would only use spirits to ward off syncopal symptoms.

As to the medicinal treatment, I can not speak too highly of the systematic use of mercurial purgatives. Repeatedly have I known the rapid pulse to fall from thirty to forty beats after their action, and, as in the toxic diarrhœa of typhoid and scarlet fevers, I know of no

\* With a little practice this milk, called *lben* by the Arabs and *matzoon* by the Turks, can readily be made anywhere. Half an ordinary yeast cake is broken up in a pint of slightly warmed fresh milk. This should be put aside in the kitchen for twelve hours, until it has begun to curdle. A proportion of one fourth of this fermented milk should be stirred in three fourths of warmed fresh milk and set aside as before, when, in summer at least, it will be fermented in twelve hours, and could then be used but for the bitter taste of the yeast still perceptible in it. A third specimen, made in the same proportion from this second one, will then generally have only the slightly acid flavor of good matzoon. After this, all that is needed is to keep enough matzoon from each day's making to ferment the next day's supply. When it is thus curdled it should be well stirred and then put in a refrigerator to prevent its becoming too sour. It is well, however, not to have it too cold when used. It should be smooth like cream, and eaten with a spoon like soup, rather than drunk. Kumyss, the Tartar preparation, is matzoon bottled up, and this contains a good deal of carbonic acid. Being fermented longer than matzoon, it is usually more sour to the taste.

\* *Gazette des hôpitaux*, Paris, May 29, 1894.

† *Revue des sciences médicales*, Paris, October, 1895.

‡ *Wiener med. Wochenschrift*, Nos. 12 to 15, 1895.



remedy so effective against the looseness of the bowels in Graves's disease. I usually prescribe for this a blue pill, followed by a saline, or a grain and a half to two grains of calomel, rubbed up with forty grains of sugar of milk, then divided into six powders, one to be taken every fifteen minutes till they are finished, and a saline administered three hours after the last dose. This mercurial action may be taken regularly once a week. Besides its effect in reducing the tachycardia it seems to improve markedly both the digestive and the nervous symptoms.

The chief medicinal treatment, however, is in the systematic and unremitting use of intestinal antiseptics. During the past two years I have been very favorably impressed with the action of phenol bismuth, the prescription being—

℞ Phenol bismuth..... 3 iv;  
Sodium benzoate,        }  
Bismuth subcarbonate, } .....āā 3 ij.

M. Div. in capsul. xlviii.

Sig.: Two an hour after meals.

Naphthol bismuth may be substituted for the phenol preparation from time to time. Another prescription is—

℞ Salol..... 3 j;  
Ichthyol..... 3 ss;  
Sodium benzoate,        }  
Bismuth salicylate, } .....āā 3 ij.

M. Div. in capsul. xlviii.

Sig.: Two an hour after meals.

I have also used benzozol in doses of from five to ten grains, but care should be taken that the larger dose does not disturb the stomach.

I am sure that these intestinal antiseptics exert a specific control over the vascular and cardiac disturbance in Graves's disease in marked contrast to the inefficiency of cardiac sedatives. I have never seen any indication of their acting injuriously upon the kidneys, or upon any other organ, though continued without interruption in the above-mentioned doses for months at a time. Along with their effect upon the heart, they appear to affect just as favorably the other numerous nervous symptoms of these patients, such as insomnia, tremor, and agitation, thus indicating their action to be essentially antitoxic. Of the nervines, strophanthus, in doses of five to ten drops of the tincture, may be given as an adjuvant, and for nocturnal attacks of dyspnoea and palpitation ten drops of the tincture of belladonna. Digitalis I have never found of any use. In some cases of violent overaction of the heart I have prescribed five drops of the tincture of aconite night and morning. With treatment guided by these principles, my experience leads me to say that in its early stages Graves's disease is an eminently curable disease, responding promptly to such measures, and that it is very promising, even with the worst cases, if sufficient time be allowed to bring the patient under its influence and then have it faithfully

persevered in. Being, however, essentially a digestive disorder, we might expect it often to subside spontaneously, or to present occasional improvements and then relapses, as digestive disorders so frequently do. This will account for the great variety of measures recommended for its cure, because—*e. g.*, chorea—the oftener a disease gets well of its own accord the longer the list of its reputed remedies. The therapeutic test, then, is the effect in the severest and most threatening instances of the complaint, and in such cases of Graves's disease I am confident that the above-outlined course of treatment will fully stand the test.

As to the results of more or less extensive surgical operations on the thyroid in Graves's disease, Dr. Starr has collected one hundred and ninety cases. Of these, seventy-four are reported as completely cured, some having been watched subsequently from two to four years; forty-five are described as improved, and three as not benefited. Twenty-three, however, died immediately after the operation, with symptoms of sudden rise of temperature to 105° to 107°. Dr. Starr thinks that as death was not due to hemorrhage or want of antiseptic precautions, it is best explained as a result of a sudden poisoning by excessive absorption of thyroid juice during the operation, perhaps from the necessary handling of the gland, increased absorption by torn vessels, or a supersecretion due to the ether used for anaesthesia. This statement, it will be seen, has to rest upon quite a number and variety of theories. 1. The thyroid secretes a hyperpyrexial poison, which it never did before, as the tachycardia of Graves's disease is characteristic because it is non-febrile. 2. This poison is not secreted, or at least absorbed, from the cut surfaces in the operation, except in those who die, for not a case of hyperpyrexia is mentioned in the histories of those who probably were equally cut but who recovered. 3. Therefore, the thyroid secretion in Graves's disease, if absorbed directly from the cells of the gland into the blood, acts very differently from the same on a cut surface. 4. The administration of ether may have made the quantity of the secretion just then excessive. To me it seems that patients with serious Graves's disease ought to be expected to die readily from such a capital operation as thyroidectomy, for they often die of heart failure simply from sitting up. I do not know of any class of patients more unpromising for surgical operations than they are at any period of the malady. And as to the hyperpyrexia, that does not need a toxine to explain it, for similar hyperpyrexia, ending in death, has been repeatedly recorded after such simple operations as washing out the stomach and the pleural cavity. These cases, of course, are not due to toxins, but are explicable as resulting from reflex disturbance of bulbar centres caused by totally unusual afferent impressions from the stomach and pleura respectively. As all experimenters agree that thyroidectomy *per se* produces at once a profound disturbance in the medulla, we see

no difficulty in regarding this phenomenon of hyperæmia as due to such an effect alone, the medulla being all the more susceptible in these patients from the long-continued effects of this disease. At the same time this high rate of mortality, evidently dependent upon the operation itself, certainly should weigh against its performance so long as other remedial measures can be adopted.

## KELOID TUMORS OF THE EXTERNAL EAR.\*

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AMONG the non-malignant tumors of the auricle, the most common is the keloid, a fibroid neoplasm developing from the cicatricial tissue of the pierced lobule. As the piercing of the ear for rings is a relic of barbarism chiefly restricted to women, we find this form of tumor limited almost exclusively to this sex.

Keloids occur more frequently in the negro race, as shown in the statistics on the Comparative Pathology of Diseases of the Ear, Nose, and Throat in the Negro, which I read recently before the Parish Medical Society. This statement is also supported by Saint-Vel (1), Knapp (2), Turnbull (3), and others, who maintain that it is due to the large size of the ornaments which negroes wear in the ear.

The opinion of the writer, however, is that the keloid, so frequently found in the negro, is not due so much to the size or nature of the rings worn in the ear, as to the inherent tendency of this race to the formation of fibroid tumors. This fact is substantiated by the experience of gynecologists, who find the fibroid tumors of the uterus a most common occurrence in this race.

Fibroid tumors, although usually found on the lobule, may also develop in other parts of the auricle, as one case reported by Burkner (4), in which a hard, elastic tumor of spherical shape filled out the whole concha of a fifteen-year-old boy.

Politzer (5), in referring to keloid tumors of the auricle, states that "they usually do not recur." My experience with this class of tumors has not led me to form this opinion; on the contrary, unless the greatest care is exercised that the pathological formation is entirely removed and that a minimum of cicatricial tissue is left from the operation, the tendency to recurrence is very great.

Turnbull (3) believes that the formation of keloids is due to some peculiar condition of the system, chiefly scrofulous, or some galvanic action of the mixed metal employed in the manufacture of the jewelry which is

sold for pure gold. He maintains that he is supported in this opinion by the number of such tumors that occur, not in the true negro, but in persons of the mixed blood of the white and black, who are more liable to scrofulous diseases than the true negro.

Referring again to the statistics which I collated on the Comparative Pathology of the Negro (6), we find that out of 11,855 cases of diseases of the nose, throat, and ear, there were eight cases of keloid tumors of the lobule of the ear; of this number seven were in blacks, one was in a white person, and one was in a mulattress. In my own experience, both in hospital and private practice, I have seen fourteen cases of these tumors, of which two were white, ten negroes, and only two mulattoes.

From these statistics, and from the reports of Turnbull (3), Schwartz (7), and other writers, we are supported in the statement that the keloid tumor of the ear is found more frequently in the negro race and but rarely in the white; and where it is found in the mulatto, it is due, not to a scrofulous condition, but to that inherent tendency to the formation of fibroids inherited from the negro parentage.

These tumors are very frequently bilateral, ten of the cases referred to being observed in both ears. The keloids in the whites were of small size and unilateral; in the mulatto, one was bilateral, while of the ten cases in the negro, nine were bilateral.

As regards the statement made by various writers that the cause of these neoplasms is the irritation from impure metals, if this were the only ætiological factor these tumors would be much more common in the whites, for, in the lower order of these, the same impure metal, straw, and threads are used in the pierced lobule as in the negroes.

Knapp (8), in *Archives of Otolaryngology*, volume iv, states that "a recurrence of these tumors is mainly due to their incomplete removal." In one of his cases in which a portion of the tumor was left, so as to make a better flap, recurrence soon took place, but a second and thorough removal of the growth was not followed by any further development of the tumor.

The avoidance of a recurrence not only requires the complete removal of the pathological tissue, but also the avoidance, as far as is practicable, of cicatricial tissue after the operation. In a number of cases which I have seen operated upon the tumor was radically removed, the base of the wound cauterized, and the wound allowed to heal by granulation. In each of these cases recurrence promptly took place in the cicatricial tissue, just as the original tumor had developed from the original scar of the punctured lobule. My practice has been to carefully dissect out the tumor, after anesthetizing the part by injecting five to ten minims of a four-per-cent. solution of cocaine hydrochloride, and close the wound entirely, if necessary by a plastic operation, and allow the wound to heal by first intention. In ten cases of operation by this method, recurrence took place in

\* Read before the Section in Laryngology, etc., of the American Medical Association, May 8, 1896.

only one, and in this case healing by first intention was prevented by the patient scratching the ear and tearing one of the stitches. A second operation in this case was followed by a permanent cure.

Fibroid tumors may develop without piercing of the ear, as in a case reported by Holt (9), in which a fibroid tumor developed in a lobule which had never been pierced. Klebs (10) also reports a case of a nine-year-old boy, in which a keloid developed on the posterior margin of the auricle after an injury of the ear. Fibroid tumors are also rarely found in the concha, a case having been observed by Anton (11).

The size of these tumors varies from a slight hypertrophy of the cicatrix to tumors of considerable size. In one case of operation at the Eye, Ear, Nose, and Throat Hospital the growth had attained the size of a fowl's egg. The presence of these tumors usually gives rise to no pain, but they are somewhat inconvenient on account of their large size. Their removal is generally demanded by the patient for cosmetic purposes.

As already stated, to prevent a recurrence it is necessary not only to remove the tumor in its entirety, but to so complete the operation that the wound will heal by first intention with the least possible amount of scarring.

Burkner (12) states that "when a tumor is very small it may be excised and its site destroyed by electrocautery or by nitrate of silver." As the result of this operation would be the formation of cicatricial tissue, I do not consider it advisable, but prefer to excise a small section of the lobule, including the tumor, and close the opening by means of stitches; the result of this operation is usually satisfactory and the deformity but slight.

The following is a history of two representative cases of keloids of the auricle which I have selected from my case book:

**CASE I.**—Mary E., black, aged fifteen years, applied to the Eye, Ear, Nose, and Throat Hospital, June 10, 1894, with keloid tumors of both auricles. She gave the following history:

Three years ago she had an attack of typhoid fever which lasted one month. No history of any tuberculous or specific diseases, and the patient appears in good physical condition. Two years ago she had her ears pierced with a needle, a straw being placed in the openings to prevent them from closing. The ear around the punctures became sore and inflamed and enlarged to the size of a hen's egg. In three weeks the swelling had subsided, but she then observed a small lump on the ears where the punctures had been made; these lumps continued to grow for two years, but gave rise to no pain.

The patient desired to have them "cured" because they were unsightly, and because she feared they would develop into "cancer." An examination showed a well-developed keloid of each ear lobule, the tumor on the left ear being nineteen millimetres in diameter and limited to the lobule; the neoplasm on the right side, however, was much larger (Fig. 1), being forty-two millimetres in diameter and involving not only the lobule

but also a considerable portion of the posterior inferior part of the pinna.

On June 15th the smaller tumor was excised, after injecting a four-per-cent. solution of cocaine muriate,



FIG. 1.—Case I.

and the wound carefully closed with silk stitches. Five days afterward the stitches were removed and eight days afterward the parts were completely well, having healed by first intention; the deformity was scarcely noticeable. A week later I operated on the right side, removing all the growth and also a considerable part of the cartilage of the auricle, which was involved; the wound was then carefully closed by interrupted stitches. A local injection of a four-per-cent. solution of cocaine acted excellently in this case, as there was no pain at any time during the operation. Six days afterward the stitches were removed and the wound healed *per primum*, there being no suppuration at any time. The weights of these keloids were seventy-eight grains and a hundred and sixty-two grains respectively. Six months after the operation there had been no recurrence.



FIG. 2.—Case I after operation.

**CASE II.**—Alice B., black, aged twenty-two years, had keloid tumors of both auricles (Fig. 3). Two years



ago the ears were pierced with a sewing needle, the wound healing without giving rise to any pain or swelling. One year afterward she noticed a slight swelling at



FIG. 3. CASE 2.

the side of the puncture of the right ear and shortly afterward also of the left ear. These tumors gradually increased in size until the tumor on the left ear was nine millimetres, and of the right ear twenty-nine millimetres in diameter. These tumors were removed under cocaine anaesthesia, the edges of the wound approximated and carefully closed by stitches, as in the last-described case, both ears healing by first intention. Fourteen months afterward there had been no reappearance of the growth.

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9. Holt. *Tumor des Ohrslappchens*.
10. Klebs. *Allgemeine Pathologie*, vol. ii.
11. Anton. *Fibroma Molle Auriculæ*.
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**The Staphylococcus Pyogenes in Acute and Chronic Otitis Media, and their Treatment.**—Pes and Gradenigo (*Ann. des mal. de l'oreille et du larynx*, July, 1895) draw the following conclusions from their observations: In general, the primary and secondary infections of the middle ear are of nasopharyngeal origin. Very rarely the secondary infections come from the external auditory canal through the perforation in the tympanic membrane. The main feature of the treatment is the use of antiseptic occlusion of the canal by cotton.

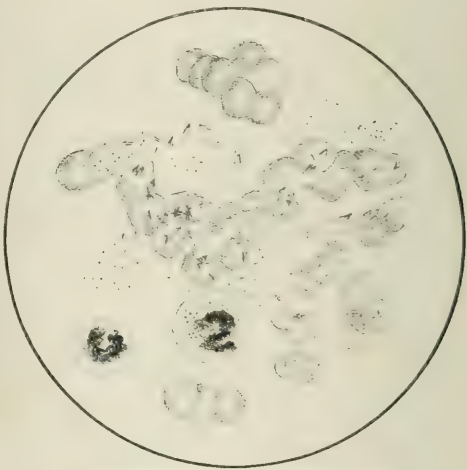
## AN APPARENT CRYSTALLIZATION OF EOSINOPHILE GRANULATIONS.

By ARTHUR J. PATEK, A. B., M. D.,  
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OF the various forms the eosinophile granulations may assume, the following are described:

1. Granules and globules of varying size.
2. Ovoid granulations.
3. Rod-shaped form (cylindro-crystalloid of Ehrlich), which may exist together with or without globules in the cell.

It has been shown experimentally that out of the contents of pemphigus vesicles, so rich in eosinophile cells (though, according to a recent report in *La Semaine médicale*, June 17, 1896, the vesicles in dermatitis herpetiformis are by far richer in them), the Charcot-Leyden crystals can be obtained in abundance by the action of cold. What relation, if any, there exists between these crystals and eosinophile cells is not positively known, though it is suspected by some that the crystals may arise from the latter.



Eosin-haematoxylin. Zeiss,  $\beta$ , immersion,  $\times 1,000$ .

I wish now to call attention to a new crystal form, to my knowledge as yet undescribed, which I recently found in a blood preparation made from an individual suffering from a suppurative axillary adenitis. A slight leucocytosis (multinuclear) existed in this case, but disappeared with the disappearance of the adenitis.

There are quite a large number of ruptured leucocytes in this specimen, the rupture probably arising in the act of forcibly separating the two cover slips after the drop of blood had spread evenly and in a thin layer between them. Therefore the crystallization of the granules must have taken place immediately after the separation

of the cover glasses and probably before their fixation (by heat).

It (to me) seems so evident, from the appearance of the crystals and their relation to the cell, that they are a product of the granules of the latter, that I hardly question the correctness of my conclusion.

The eosinophilous property of the crystals—unfortunately not shown in the accompanying diagram—is marked, for they possess the same pigmentation as the granules in the cell. We may distinguish several varieties of the eosinophilous bodies:

1. The granules and globules of varying size within the cell and in different parts of the field.

2. The rod-shaped form, cylindro-crystalloid, also within the cell and in the field.

3. This new variety, which, from its resemblance to bundles of grain, might be called the "sheaf form" of eosinophilous crystals.

These crystals have, of course, no special significance, and are of mechanico-chemical origin. Though I have, since obtaining this specimen, looked for them in many other blood preparations, I have been unable to discover any.

It is possible that what I take to be a hitherto undescribed form of eosinophile crystallization may be a known crystal of other origin than that to which I attribute it; but from the fact that it bears no resemblance to any known form of crystals that are found in or obtained from the blood (hæmatoidin, Charcot-Leyden, and the various forms of hæmin crystals), and that its pigmentation quality (strongly eosinophilous) is identical with that of the granules in the cell from which it seems to have sprung, and from its peculiar relation to the ruptured eosinophile cell, I think the view that these crystals are transformed eosinophile granulations justified.

I can hardly entertain as a possibility the view that they are an element foreign to the blood and artificially introduced.

I shall be glad to receive information on this subject.

117 WISCONSIN STREET.

## THE FUNCTIONAL VALUE OF CORTICAL CEREBRAL MOTOR CENTRES IN DIFFERENT ANIMALS.\*

By WESLEY MILLS, M. A., M. D., ETC.

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It is impossible to excite in the pigeon any of the ordinary movements of the limbs or trunk by electrical stimulation. This I have established by a long series of experiments. The same applies to the domestic fowl,

and probably to all or nearly all birds, though it would be interesting to know whether it holds for the parrot with its remarkable handlike motor power. On removal of the entire cerebral cortex in the pigeon, nearly all the movements of which the intact bird is at any time capable can still be called forth, though none of them are now voluntary. This seems to indicate that the mechanism necessary for executing such movements exists somewhere else than in the cerebral cortex, presumably chiefly in the subcortical centres of the cerebrum, or, at all events, in the encephalon somewhere.

We have found that cats from which we had removed at one operation both the areas around the crucial sulcus (which corresponds fairly well functionally with the fissure of Rolando), and in which the centres for the head and limbs lie, can walk in some fashion as soon as they recover from the anæsthetic, and they gradually move better and better, so that even within the few days that they survive this operation they have to a considerable degree recovered their ordinary gait. Our cats thus operated on refused food entirely, and notwithstanding some forced feeding, which was not very satisfactory, died in a few days.

But cats from which the same areas were removed within a few days by successive operations did well, and, to ordinary observation, walked within even three or four days afterward as though their brains were intact.

The kitten I show you to-day could also "wash its face" with both paws as well as any cat on the fourth day after the removal of the second motor region referred to above.

In dogs the recovery is slower, in my experience, but nevertheless occurs to a large extent.

The rabbit can walk after removal of the greater part of the entire cerebral cortex, and the hind legs seem almost unaffected at any time.

After operations of a similar though less grave character on the monkey there is decided paralysis from which there may be slow recovery. The same seems to be the course of events following surgical removal of parts of the motor area in man; but in his case, and sometimes in the monkey, the paralysis is very lasting.

I could demonstrate to you, did time permit, that in the rabbit, cat, and dog the different areas (centres) of the cerebral cortex are not on the same functional plane. It is evident, from contrasting these animals—especially if we include the bird—with the monkey and with man that the expression "motor centres" should convey a very different meaning according as we speak of one or the other.

Had this been realized earlier, the controversies that have raged over cortical localization would have at least been of a less heated character. It is to my own mind clear, after considerable investigation of this subject on a variety of animals, that we must recognize that localization exists in varying degrees in different animals, and also that cortical centres are very differently organized.

\* This paper, accompanied by demonstrations, was read before the Canada Medical Association in Montreal, August 27, 1896. Dr. J. W. Scane, demonstrator of physiology in McGill University, assisted in the required operative procedure, etc.

In the bird there are none of the ordinary cortical motor centres at all, if one can settle such a question by electrical excitation.

In all the other animals referred to in this paper the writer has found that:

1. Certain areas of the cerebral cortex respond to electrical excitation by movements.

2. Certain areas have a different though analogous distribution in different animals.

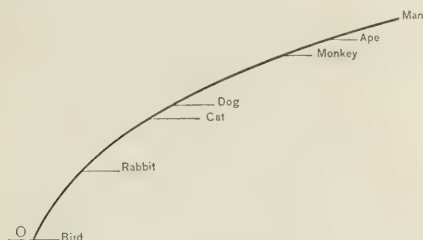
3. These movements are more readily excited, are more elaborate, and their centres are less readily exhausted in some animals than in others.

4. The exact location of the motor centres is better defined the higher we ascend in the animal scale.

In all the foregoing there are variations for individuals.

To put the whole matter briefly, we must recognize in different animals (and to some extent in different individuals) all degrees of functional cortical development; and it is further capable of demonstration that all centres in the same animal are not equally well organized, or, in other words, are not on the same physiological plane. In the rabbit, for example, the centres for the facial movements and those of the fore limb are better developed than others, and in the dog and the cat the centres for the fore limbs are better organized than those for the ears or tail; and the same applies throughout.

We may draw a curve to express these facts and place the different groups of animals in their physiological order thus:



This is further evident, as I have elsewhere shown, by tracing the functional development of the cerebral cortex in the young of the rabbit, guinea-pig, rat, mouse, cat, and dog.

There is a time when no reasonable strength of current will, when applied to the cortex, give rise to movements in those animals which are born blind, but later, and in a regular order, the centres are developed.

Such a conception of motor centres is in harmony with the facts of clinical medicine. It is well known that all movements in man are not equally readily abolished by cerebral disease or equally readily restored.

Do not such facts as these demonstrations impress on us make the relative part played by higher and lower centres plainer in man as well as in the lower animals?

Evidently, cortical centres are relatively more important in man; but the view that even in man they can not be replaced by others to some extent seems to me to lack foundation either in physiological experiment or in clinical medicine.

The case resolves itself into a difference in degree as concerns man and the lower animals, and to make in some measure this great truth evident has been the main purpose of these demonstrations.

*Demonstrations.*—The principles stated above were illustrated by demonstrations on the pigeon, the rabbit, the cat, and the dog.

A pigeon from which the entire cerebrum had been removed an hour before was shown to be capable of flight when thrown into the air.

A rabbit, with ablation of the motor centres for the limbs and the neck on both sides, on the day previous, by a single operation, was able to jump vigorously, only the merest tendency to slipping of the fore paws on a smooth surface being noticeable.

A mature cat that had been the subject of operation about the middle of June—the area around the right crucial sulcus having been excised—appeared to move and act in all respects like a normal cat. More remarkable still was the case of a kitten a few months old. About five weeks ago the cortical centres for the limbs and neck on one side were excised, and two weeks since the same operation was done on the opposite side. It was difficult to distinguish in the movements of this kitten any difference from those of a normal cat. Its intelligence seemed to be little if at all altered. It walked, ran, washed its face, etc., to all intents and purposes like any other cat under ordinary circumstances.

A puppy three months old had the circumcrucial motor area (for neck, arm, and leg) removed about a week before. It could walk, run, scratch with its hind legs, etc., though there was a tendency to slip, and at times a bending under of the paw on the side opposite to the lesion. This is somewhat analogous to wrist-drop in the human subject.

The puppy was rapidly recovering, though at present he illustrated a condition that, in a somewhat more marked degree, immediately follows operation in the cat also, and to a lesser extent in the rabbit. It should not be termed paralysis.

The two areas that had been removed from the kitten, and the single one from the puppy, were exhibited. It was perfectly plain from these demonstrations that cortical "motor centres" had not the same signification, relations, etc., in these animals as in the monkey and in man.

All the operations were performed under an anæsthetic, and the wounds healed rapidly.

It should also be pointed out that in each instance the motor areas were determined by electrical stimulation of the cortex with the rapidly interrupted current of a Du Bois inductorium.



These demonstrations in themselves warrant the cautions expressed in regard to theories of localization in my *Text-book of Physiology*\* at the date of its publication, and I am as firmly convinced as ever that it is only by the comparative method that broad, sound, and enduring laws can be established in this or any other department of physiology, on which human and comparative medicine must each alike rest.

## THE CLINICAL VALUE OF ANTISEPTICS, BOTH INTERNAL AND EXTERNAL.

By HOWARD LILIENTHAL, M. D.

EVERY discussion should begin with a distinct understanding of the terms used to express the subject in hand.

While the term antiseptics in its broad sense refers to antiputrefactive agents and methods, it may, for the purposes of this paper, be defined as means for checking certain morbid processes by destroying the micro-organisms which cause them or by lessening the virulence of these micro-organisms. This definition includes physical as well as chemical antiseptics.

By the use of internal antiseptics we strive to accomplish the desired object from within the organism itself, administering the remedy in such a way that it may enter the economy. The true internal antiseptic should act after its actual entrance into the system. A substance given by mouth for the disinfection of the alimentary tract by direct action on the microbes therein contained can not strictly be called an internal antiseptic, while the administration by mouth of quinine for the modification of the virulence of the plasmodium malarie contained in the blood exemplifies the use of a true internal antiseptic.

External antiseptics must act upon the germs without first entering the economy. As an example of this class we have the application of germicide substances to infected wounded surfaces.

The clinical value of antiseptics is inversely proportionate to their power to harm the host, for it would be unreasonable to employ means for the destruction of germs which, however successful, should also destroy our patient.

All antiseptics may be divided into two great classes, the physical and the chemical. The physical class consists of subdivisions which include radiant energy—*e. g.*, heat and mechanical means. As an example of radiant energy may be cited the thermo-cautery, while the surgical draining of septic abscesses belongs under the head of antiseptics by mechanical means.

Chemical antiseptics are elementary substances or their combinations—such, for example, as chlorine, carbolic acid, and bichloride of mercury.

The discussion of the clinical value of the various forms of antiseptics will now be taken up in order.

*Internal Antiseptics.*—1. The living animal organism has an inherent antiseptic power or quality. That this exists can not be doubted when we become aware of the fact that we are in constant contact with great numbers of pathogenic germs, yet that only occasionally are we attacked in such a way as to disturb the balance of health; and this in spite of the fact that our normal body temperature is one at which most germs thrive. In the event of death by violence, even when no microbic disease previously existed, putrefaction will at once set in.

The antiseptic power of various tissues has been investigated, and the result seems to justify the assumption that living tissue has a certain degree of germicidal power, and that the leucocytes are probably in this respect the most active elements.

2. In the belief that in the cell nucleus would be found the active antiseptic principle of the living tissues, various preparations, embodying the whole or a part of this portion of the cells, have been artificially produced. These preparations of cell nuclei have been shown to be of some value in combating certain germ diseases—such, for example, as tuberculosis.

(Those drugs which act upon septic disease by causing an increase in the number of white blood-cells will not be discussed, because the white blood-cells do the antiseptic work and not the drug.)

3. The elevation of the body temperature, which accompanies many diseases caused by germs, may reach such a degree as to inhibit the growth of these very organisms. It may therefore be questioned whether a simple lowering of the temperature by means of antipyretics is wise, especially in cases where the pyrexia is well borne. It is said, for example, that the high fever accompanying erysipelas decidedly checks the growth of the streptococcus, and it is a commonly observed fact that high fever in the course of a gonorrhoea is almost always accompanied by a diminution of the urethral discharge and of the number of gonococci present.

4. Certain products of bacterial cultures are found to be poisonous to the very germs which produce them. All through the various kingdoms of living things, whether plant or animal, it is found that excreta are poisonous in their action upon the organisms whence they come. Taking advantage of this law, Koch sought to destroy tubercle bacilli in the human being by means of hypodermic injections of tuberculin, a product of the bacilli themselves. This was only partially successful, and its therapeutic use had to be in large measure abandoned because of the many untoward effects produced in addition to those desired.

Working on the same lines, however, substances have been produced which have a most decided internal antiseptic effect in cases of diphtheria and in certain cases of septicæmia. At the present writing, work in

\* *A Text-book of Animal Physiology.* D. Appleton & Co., New York, 1889.

this direction is being rapidly pushed, and there is reason to believe that internal antiseptics by bacterial products will in future be a most valuable aid to medicine.

Some diseases not actually proved to be of microbic origin, but for good reason believed to belong to this class, have been cured by the introduction into the system of substances derived from the organs of animals which have been afflicted with the same malady. Usually the organ which seems to be the seat of the trouble is that selected for use in preparing the remedy. The antirabic inoculations first used by Pasteur belong in this category, and may safely be placed among the valuable internal antiseptics.

Preventive inoculation may be regarded as antiseptic, because it causes the destruction of such germs as may enter the organism even before they cause actual symptoms of poisoning.

5. We now come to the group of antiseptic chemicals of known composition. Some of these are so sure in their action that they may be regarded as specifics—for example, the various preparations of mercury in the treatment of syphilis. The drug acts no matter how it enters the organism, whether by inunction, inhalation, subcutaneous injection, or by absorption from the alimentary canal. By regulating the dose of toxic effects of the mercury may be almost or entirely avoided. The fact that mercury has such a certain effect in modifying the course of syphilis is in itself sufficient to establish the great value of internal antiseptics. The pity is that we know so few drugs whose action is so prompt and sure. Quinine in malarial disease is almost equally effective, but beside these two examples of true internal antiseptics all others sink into insignificance. The internal administration of bichloride of mercury in other diseases of a septic nature has been tried, but with doubtful, or at most very variable success. The drugs of the phenol group have also been extensively used, especially in tubercular disease, and they have in many cases seemed to affect favorably the course of the malady, but it has not been satisfactorily determined, whether because of their antiseptic qualities or on account of their physiological action on the patient.

The balsams, aromatic oils, and salicylates have shown themselves to be of considerable use in checking fermentation, especially alkaline fermentation, in the urinary tract. A simple experiment will show their antiseptic action. Let an individual pass urine and place the vessel in a warm room. Immediately after he has urinated administer ten drops of wintergreen oil (*ol. gaultheriæ*), and in two hours let him urinate into another vessel, placing it beside the first. The first specimen will be putrid in a few hours, and the microscope will show myriads of bacteria, while the second will remain sweet, and even in from three to six days only a few germs will be found in the specimen.

This class of drugs has also some clinical value when given internally in certain constitutional disturbances

of a septic nature, where they are believed to act as germ destroyers. The discharge and irritative symptoms of gonorrhœa, for example, are much modified under their influence, while gonorrhœal rheumatism and some forms of true pyæmia are lessened in virulence. Whether or not true rheumatism is a germ disease, its course is surely modified by these chemicals, notably by the salicylates and the oil of gaultheria.

6. The next class of antiseptics which demands our attention belongs in the strictest sense to the external group, though the substances are given by mouth and act inside the body, not, however, after absorption into the system. I refer to antiseptics of the alimentary tract, the gastric and the intestinal. Antiseptics of the mouth are still more strictly external.

Our most efficient means for combating germ infection in the stomach and its contents is by washing or lavage through a rubber tube made for the purpose. When the fermentation is acid, the best results will be attained by the use of an alkaline wash, which should always be preceded by a thorough mechanical irrigation with warm water. This irrigation should be continued until the water returns clear, and then the alkaline antiseptic fluid should be poured in and allowed to remain for a variable length of time, according to the individual case. Where alkaline fermentation exists, the best results from irrigation will be attained if one of the true antiseptic drugs in mild dilution be used. Peppermint water or a very mild formaldehyde solution may be employed with benefit.

Drugs like calomel, which draw water from the walls of the viscera (hydragogues), and at the same time cause an increase of peristalsis, act as mechanical antiseptics, and their effect is practically an irrigation of the alimentary canal. In the case of calomel, a certain amount of bichloride of mercury is also formed, so the irrigation becomes a chemically antiseptic one as well. The usual purging salines often do excellent work in causing a drainage of the bowels which is thoroughly antiseptic in its action and accounts for the good results following the saline treatment in septic enteritis, where Nature usually points the way by causing a diarrhœa from the irritation by the products of putrefaction.

The attempt has been often made to disinfect the alimentary tract or a portion of it by converting its contents into a germicidal fluid. For this purpose aromatics have been used and also chemical compounds, which, becoming decomposed in the intestine, liberate an antiseptic in the very place where it will do the most good. Later study and research has not borne out the rather enthusiastic statements of the earlier experimenters. In the case of the aromatics, to be sure, the odor of the stools has sometimes disappeared or has been masked, but clinically the progress of disease has been but little changed, and it is becoming more and more apparent that drugs which act by mechanical purging are the surest and the least dangerous.

*External Antiseptics.*—7. The true external antiseptics of modern surgery have been used understandingly for a much longer time than internal antiseptics. The clinical value of surgical antiseptics is incalculable. Here, as in all other branches of the subject, we understand the term in its broad sense, and we recognize the incision and drainage of an abscess as an antiseptic procedure quite in the same light as the employment locally of a chemical substance.

It is possible in surgical work to carry out the technique of antiseptics far more accurately than it can be done in the other branches of medicine, and on scrupulous attention to detail depends clinical success. The accuracy and consequent efficiency of our methods varies considerably according to the anatomical region involved and our ability to disinfect it. It will therefore be well to discuss briefly surgical antiseptics in general, and then to apply the principles to various regions of the body. Let us describe the management of a cutting operation upon a non-infected part of the body—such, for example, as the excision of a lipoma of the shoulder. Here it is our wish to perform an absolutely clean or aseptic operation, and to insure this condition and its continuance throughout the operation all our watchfulness and skill must be brought into play. First we must get rid of all the germs which exist upon this region of the skin of our patient. This is done by shaving the part and its surroundings, then by scrubbing with green soap and hot water, followed by a brisk rubbing with a clean towel soaked in alcohol or ether, to remove the soap and remaining traces of fat. A strong but not too irritating chemical antiseptic, such as bichloride of mercury in 1-to-500 solution, is now poured or sponged over the skin and completes the preparation. All surrounding non-disinfected parts must be covered with clean towels or other cloths so that accidental contact of dirty with clean regions shall be impossible.

The hands and arms of operator and assistants should be scrubbed with green soap for five minutes, then scrubbed in strong alcohol, and finally immersed for two minutes in 1-to-1,000 bichloride, or an antiseptic of similar strength. All persons assisting in the operation should wear sterile gowns over their clothing so that accidental contact of hands or instruments with the undisinfected clothing may be avoided. An aseptic cap or a clean towel should cover the head.

The instruments for use during the operation must have been freshly boiled in water, to each quart of which has been added a heaping tablespoonful of washing soda.

Gauze or cotton pads, sterilized by dry heat, may be used instead of sponges; or if sponges are preferred, they must be carefully cleaned and rendered aseptic by mechanical means and subsequent prolonged soaking in strong antiseptic solutions.

Ligatures and sutures of silk, cotton, or silkworm gut should be boiled well in an antiseptic solution of

efficient concentration, but not so concentrated as to weaken the tensile strength of the material.

Catgut may be sterilized by boiling in alcohol or by soaking it for an hour in a ten-per-cent. alcoholic solution of carbolic acid. The catgut may then be kept for use in absolute alcohol.

The room where the operation is to take place should be disturbed as little as possible beforehand. Carpets should not be taken up, and no sweeping or dusting should be permitted for fear of the flying germ-laden dust.

When the operation is finished and the absorbent sterile dressing has been applied, then comes the test of the thoroughness of our work, for where no germ has entered there the wound will heal without hindrance and under one dressing.

This, then, represents the value of antiseptic methods in a "clean" or aseptic surgical operation upon the person of a healthy individual. If, however, the operation itself is one which is performed as an antiseptic measure, the steps are the same as those just described, provided every particle of infected tissue can be removed. When this is not possible the wound must be left open and dressed "wet" with material soaked in a mild germicidal solution which shall act chemically upon the microbes, and the whole dressing must be covered with a waterproof layer—oil silk or gutta-percha tissue. This wet dressing will promote the perfect draining away of septic secretions. Drainage is the best antiseptic where the whole infected tissue can not be at once removed.

Modified procedures may be useful in operations upon special regions. The conjunctival sac, the nose, the mouth, the urethra, and the vagina are lined with mucous membrane. A true mechanical disinfection is here impossible, and powerful or acrid germicides too energetically applied may cause a congestion with swelling and the secretion of abnormal mucus, a condition which invites infection. Very frequent mechanical cleaning, say once an hour, with mild chemical antiseptics, is our best preparation. The washings should be continued from twelve to twenty-four hours before the operation.

The rectum should be cleaned incidentally by purgation through the alimentary tract, and this should be followed by enemata. At the time of the operation the mucous membrane may be well scrubbed with soap on a sponge. Primary union, after careful work, is the rule in this region as in others.

The bladder may be cleaned by antiseptic washings or irrigations, but here as elsewhere drainage is of the utmost value. Indeed, very many cases of cystitis may be cured without washing by simply catheterizing every three hours, day and night, to get rid of all residual urine. The writer has many times proved the usefulness of this antiseptic measure.

An important and valuable procedure may here be mentioned. I refer to the method of preventing the



extension of local infection in the serous cavities by using gauze pads or strips to wall off healthy structures from those which are diseased. Large collections of pus in the abdominal cavity may be safely evacuated after protecting the surrounding parts by means of these gauze barriers. Peritonitis need not occur if this work has been carefully done.

In some diseases requiring surgical intervention we have to deal with germs of great virulence, and there may be danger from their entrance into the blood current when incision is made. Malignant pustule is an example. The accident may be avoided by the use of our most powerful antiseptic—heat—in performing the operation. A piece of metal, kept red-hot by an electric current or by a stream of benzine vapor, may be used to burn the inflamed tissues deeply, or, indeed, to destroy them entirely.

Absence of heat (cold) is often of value as an antiseptic. The temperature of a small part of the body may be lowered many degrees, and may be kept in this condition for days at a time by the continued application of cold. As an external antiseptic, where we do not wish for the destruction of tissue, cold is a more powerful agent than heat. The local temperature may be raised but a few degrees, it can be lowered many. The germs may not be killed by the action of cold, but they will be often prevented from multiplying, so that the patient may become stronger and his body cells may be enabled to resist their attack.

In this paper I have striven to show the clinical—*i. e.*, the practical and true value of antiseptics. I have tried to show that the word means more than carbolic acid or iodoform; that although artificial compounds intended to kill germs may be useful assistants, they are seldom, if ever, indispensable.

It may not be amiss to examine briefly the advances made in the treatment of some typical morbid conditions, as shown by the results obtained from antiseptic methods of attack and defense. By attack I refer to the active treatment of the existing disease, and by defense I mean prophylaxis, which guards the healthy being from harm.

Internal antiseptic treatment, as the writer has already said, is best exemplified by the mercurial remedy for syphilis. This terrible disease has for civilized persons lost nine tenths of its horrors, because even if the malady is not literally "cured" its course may with great certainty be so modified that the hideous pictures of deformity and untimely death are rarely encountered, except in cases where ignorance or carelessness have led to neglect. Instead of the frightful deformity and the tedious and uncertain dosing with nauseous drugs, the patient, though still unfortunate, may at least avoid public exposure, and may attend to his usual occupations while the treatment goes on.

Gastro-intestinal antiseptics have shown itself of immense value in the treatment of the septic diarrheas of

children. In the old days the deaths from this source were simply appalling. Constipation, for a day or two, usually unnoticed, gave an opportunity for toxic fermentation. Then came the elevation of temperature, also often unnoticed, and finally the convulsion and the diarrhœa, with death a few hours later, ending the dreadful scene.

In the antiseptic, or, as it is often called, the surgical treatment of the trouble, we heed the first notes of warning. A hydragogue purge, frequent irrigations of the colon, and the withholding for a day or two of the fermenting food (usually milk) will, in the vast majority of instances, suffice to establish normal conditions with rapid convalescence. The children of the poor or of the ignorant—the combination is, alas! too common—are the ones who in these days form the great bulk of those who succumb to this scourge of innocent childhood.

Prophylaxis by isolation and by the sterilization of excreta and of infected garments has saved millions of lives by stopping the spread of such diseases as Asiatic cholera and typhus fever, while these precautions, together with preventive inoculations (vaccination), have almost stamped out small-pox as an epidemic.

The recognition of the microbic character of tuberculosis is the cause of the first truly intelligent treatment of this sickness, whether its manifestations are general or local. Instead of the hopeless death sentence of "change of climate," we now have, especially in incipient cases, a very fair chance that the course of the morbid process may be modified, or even that a permanent cure may result. This wonder may be accomplished by careful local and constitutional treatment. Recognizing that leucocytosis is a great power for good in this disease, we try to bring the condition about preferably without drugs, but physiologically by means of very frequent feeding. An hour or two after a meal the number of active leucocytes in the blood has been found to be much increased. By feeding often—as, for example, by giving a glass of hot milk every hour—we may induce a constant state of leucocytosis, thus availing ourselves of the internal antiseptic principle of the body referred to above under *Internal Antiseptics, 1*.

The site of local tuberculous infection, whether pulmonary or otherwise, we now treat on surgical principles. This does not necessarily mean that we operate, but that we make use of rest to the inflamed parts, and that we employ dry cold (ice bag) to retard the development of the germs, with consequent destruction of tissue. The result is that very often the case does not go beyond the first stage and ulceration or abscess is avoided, the disease, whether in bone, lung, or other tissue, becoming encapsulated. It is a noteworthy fact that in direct proportion to the difficulty experienced in applying these antiseptic principles the disease is or is not amenable to treatment. Thus, the joints and bones may be very successfully treated by fixation and cold, while the disease in the lungs is much more difficult of attack,

and tuberculosis of the larynx and of the membranous brain coverings is still almost hopeless.

In the days when tuberculosis of bone and joint was not understood the rule of treatment was expectant, and the poultice was often employed to actually encourage the formation of abscess which might later be "lanced" when on the point of bursting. The resulting sinuses were seldom interfered with, and joint resections were deservedly rare because erysipelas, gangrene, or pyæmia too often necessitated amputation, or actually ended the case by killing the patient. Serious infection after such operations is at present very infrequent, and the rule is rapid and uneventful recovery.

Surgery in general has become a scientific possibility solely on account of antiseptics. The youngest hospital graduate in 1896 will successfully accomplish cures by operation which a hundred years ago would have been rightly accounted examples of criminal recklessness.

It has been said that the comparative safety of operative procedures has caused an alarming increase in their frequency.

By a critical reference to hospital reports we do find that the number of operations has enormously increased, but if we look over the character of the work done we find that destructive and maiming surgery is becoming more and more rare, while conservative and reparative operations are very largely on the increase. Old statistics as to the dangers of any given operation are now ridiculously unreliable. Erysipelas and hospital gangrene are seldom encountered in well-managed institutions, hospital gangrene, in fact, having been practically exterminated.

Life-saving operations upon the viscera, now of daily occurrence, were formerly most infrequent sights, and were practically limited to accidental wounds involving the body cavities, and to emergencies with a plainly visible cause, as, for example, strangulated hernia. Instead of operations for appendicitis, with a large percentage of recoveries, we heard of deaths from "inflammation of the bowels."

Long before the germ theory of disease was understood there were men who, in the face of unbelief and ridicule, recognized contagion as the cause of certain forms of surgical fever. Among the first to know the principle of septic infection and with his mighty pen to spread broadcast his wisdom, was Dr. Oliver Wendell Holmes, who, in an essay on the contagiousness of pyæmic fever, most powerfully set forth the truth. Although the actual cause of this dread disorder was not known to him, his rule for prophylaxis by forbidding an infected nurse or physician to visit a lying-in woman is like a milestone in the march of medical science.

True antiseptics, internal and external, have long been blindly sought. Indeed, most of the early advances in the treatment of disease now known to be of microbic origin have been unwittingly on antiseptic

lines though usually the result of happy accident. The years are few, indeed, since the true light has shone upon us, but it has brightened the dark paths where once we groped, and points with steady beam the road to progress.

#### METHODS OF DIAGNOSTICATING DISEASES OF THE ANTRUM OF HIGHMORE, AND THEIR TREATMENT.\*

By FRANK S. MILBURY, M.D.,

LARYNGOLOGIST, ETC., TO THE BEDFORD DISPENSARY AND HOSPITAL,  
BROOKLYN.

In my opinion too little attention is given to this cavity in connection with affections of the nose. Disease often exists in this sinus when no visible indications are present.

Lennox Browne says that he has always found empyema of this antrum when suspected, probably only having operated on patients where disease had so far advanced as to make diagnosis almost certain.

Lichtwitz, of Bordeaux, recommends irrigation by puncture with a straight trocar through the inferior meatus. When the diagnosis of empyema is a little uncertain, this, he says, in all cases, clears it up conclusively. In 167 punctures already made, 54 gave positive results, while in 113 the antiseptic solution returned clear. But, in my opinion, this is not by any means a positive diagnosis, as always more or less blood is present, making it impossible to tell whether there is pus or not, unless in large quantities.

In many cases, even under a local anæsthetic, the pain is considerable, and patients complain of what they think unnecessary suffering; and I concur with them in saying that it is needless and uncertain in its results. In many cases have I used it, but prefer other methods.

Zeim makes an exploratory puncture through the alveolar arch, which is more painful and unsatisfactory than that through the inferior meatus.

Hartmann and Kaufmann irrigate through the natural orifice and treat through that opening, but usually this is most unpleasant and objectionable, and can only be done in skillful hands.

For diagnosis, Lennox Browne relies upon the old methods—viz.: discharge of a fluid of the consistence of cream, of a pale lemon-yellow color, and, as a rule, unconnected with any ulceration or inflammation of the rhino-mucosa of the affected side and generally unilateral, and the patient is always aware of the offensive character of the flux. He says that in illumination pus may almost always be seen oozing from under the anterior extremity of the middle turbinated bone, and if this be wiped away, and the patient made to lie on a couch, with head slightly bent downward, the secretion will reappear. Also, there is generally pressure, redness, pain in that region, in eye, fullness of nose, etc.

\* Read before the Kings County Medical Association of Brooklyn.

This may do very well when these points are clearly developed, but is useless in cases in which there is no pus. When in doubt, he recommends puncture through the alveolus, canine fossæ, or the wall of the middle or inferior meatus.

These methods are all good, but in my opinion, based on past experience and that of others, I have come to the conclusion that the most feasible and practical way of diagnosis is by electrical illumination, now practised by but few. I believe it was first introduced by Voltolini, and later in Vienna privately by Chiari, and in the clinic of the late Dr. Schnitzler, where I have seen it used quite extensively. Not only has the electric light been found a convenient, painless, and reliable diagnostic measure in antral disease, and other sinuses about the head and face, but in the stomach, rectum, bladder, etc., and what developments await us in the future we know not.

As already stated, the present methods employed are usually painful, and that of syringing *via* the middle meatus is to most persons extremely unpleasant, and even in skillful hands great difficulties are often experienced in reaching the natural orifice.

To the use of the electric light in the mouth there can be none of these objections, and if in the future, after greater experience and better instruments, full reliance is found possible, a great gain will be secured; for the lamps may be put to many uses in diagnosis, not only in disease of the antrum of Highmore, but in frontal and ethmoidal disease as well. In the latter, however, I have found the light of little use, although in the hands of others partial success has been attained. Still, many say that it is of no practical value, but I think I may be able to prove that it is of real, not assumed, practical value.

I have been using one of Leiter's lamps, of about three candle power, which was most satisfactory; but this lamp having given out, and not being able to replace it with another, I have more recently been using one of Meyrowitz's, of about one candle power, and find this nearly as good as the higher; but of course the light spots are not so well defined as with the greater power. The handle is so arranged that the current may be turned on or off at will, and I do not press the button until the lamp is in the mouth and lips and nostrils are closed. The room must be absolutely dark, with not a ray of light to interfere with this delicate and accurate diagnostic method.

The points of diagnosis in illumination of the antrum are in appearances under the lower eyelid, over the antral sinus; if healthy, a large triangular light spot is seen, and, if clearly shown, we may be quite sure of a sound antrum. A more subdued illumination exists over the whole cheek and lips.

A good deal of practice is necessary to clearly and easily recognize the lines of demarcation. In well-developed antral disease the whole area of the antrum is in

the deepest shadow. Sometimes in health the antral area is dark, but very rarely is this the case.

The lamp may also be used for diagnosis in the nose, placed in the mouth and the nasal speculum used. The frontal sinus may be illuminated by placing the lamp under the orbital ridge, and in disease a dark shadow is formed. The normal tissues in these regions in persons of all ages are transparent, as is proved by the light, and in disease, no doubt, the umbra is caused by the hypertrophied condition of the mucous membrane and not the presence of fluid in the sinus. After all discharge has been cleared out the shadow still remains, and no means at our command can enlighten us as to the nature of the contents.

After diagnosis, the next consideration is the best method and point for opening and treating the maxillary sinus, and it is essential that an artificial opening, easy of access, be provided, where surgical measures may be carried on and perfect drainage effected, because in many cases very complicated conditions are found. To attempt the treatment of such cases through the natural canal is, to say the least, most unsatisfactory, as in many cases of disease it is imperforate, and if found, which is difficult, treatment through it yields little or no permanent results.

As already intimated, entrance to the antrum through the nasal wall as a means of diagnosis or treatment is most undesirable, as there are so many extensive diseased conditions of the sinus on which this method could throw no light, owing to the fact that there are many affections without purulent secretion, as polypoid degeneration of the antral mucosa, inspissated discharge, and in many cases locking up of fluids by septi.

Also, the approach to the sinus by the way of the alveolar process is almost as unsatisfactory as the other methods, because here it is almost impossible to make a proper exploration or diagnosis, or get good drainage or access for surgical purposes, and to sacrifice a sound tooth for such a purpose is open to criticism. If there is merely a little pus present, then this opening may answer every purpose, but how are we to tell that this alone is the condition?

I puncture through the anterior wall of the sinus at the canine fossæ. The lip is well retracted and a crucial incision made down to the bone. With an elevator the soft tissues are cleared away over quite a large space, say about the size of a silver twenty-five-cent piece. With a large burr in a dental engine the perforation is made through the bone and carefully enlarged with a small chisel to the size desired, being cautious that the contents of the antrum are not disturbed.

The sinus is now examined, with the electric light in the mouth or by reflection. If septa are present they are broken down, and polypi, if present, are removed, and if there is a granular or adenoid condition of the mucous membrane it is curetted. Sometimes hæmorrhage is excessive, but it is easily checked by packing the sinus



for a short time. The opening is made flush with the floor of the sinus, and a drainage-tube placed along its floor and allowed to remain a week or two. Occasionally a gold eyelet is put in, and the patient is thus in a position to syringe out the cavity at will.

The great difficulty is to keep the cavity open long enough, and subsequent repair is always perfect. The operation may be carried out under cocaine with but little pain, but I am in the habit of using bromide of ethyl for most cases. This general anæsthetic acts quickly, safely, and pleasantly. Professor Politzer, of Vienna, uses it almost exclusively in slight operations on the ear, and in the numerous cases in which I have seen him use it I have never observed the slightest unpleasant effect.

Some authors assert that carious teeth are the chief factors in antral troubles. Lennox Browne says that in forty-six cases recorded he found carious teeth present in all but three, but he does not state whether he believes the dental irritation is the cause of the trouble or not, but says that possibly the condition of the teeth may be caused by disease of the antrum. It is true that most persons afflicted with antral disease also have carious teeth, but I believe that only in rare cases are they produced by empyema of the antrum, and then only in those cases of necrosis of the floor of the sinus, or the rare cases of roots of teeth penetrating into that cavity.

Chiari, of Vienna, says that only in exceptional cases is the trouble caused by periostitis and abscesses at the root of the tooth, and occasionally the mere extraction of a tooth will effect a cure. Sometimes repair follows the frequent irrigation of the nose by medicated fluids and by the way of the natural orifice, but oftener only improves the trouble. Only recent inflammations may be so handled with any degree of success or certainty.

Probably in the greater number of cases of nasal blennorrhœa presented to the specialist, the seat of discharge is the maxillary sinus, and I do not believe the fetidity of the pus to be an important factor in diagnosis, as the odor seems more to depend upon the length of time the pus is pent up by sœpti, etc., than by the place of origination.

**CASE I.**—A gentleman, merchant, American, aged fifty-four years, presented himself at my office complaining of stoppage of the left nostril and a most fetid discharge from the same, which permeated every room where he sat, making life not only disagreeable to himself but to all others in the house as well. On examination I found the nostril filled with a muco-purulent secretion of the most offensive character. An antiseptic spray was used for several days and the discharge somewhat abated, and on a second inspection several large polypi were discovered, extending into the postnares; these I removed by snare, and cauterized the bases as well as possible with the electro-cautery. Very marked atrophy had taken place. The discharge was soon controlled, but fetidity remained as bad as ever, and as there were no visible indications of disease I sus-

pected antral trouble, and with electric light in the mouth found the following: the whole antral area on the left side was in deep shadow, whereas the light-spot showed distinctly over the antrum on the right side, thus convincing me that the left sinus was diseased; but as to its nature I was still in the dark. I endeavored to irrigate through the natural orifice by means of the Hartmann cannula, but with no success. The patient's teeth were in excellent condition and the mucous membrane was healthy. I concluded that this was a good case for operation, but he being in delicate health I thought better to delay for a time, and in the meantime kept up treatment of the nose.

A few days later, however, on one of his visits, he called my attention to a sore over the socket of the second superior left bicuspid, where that tooth had been extracted some weeks before, but the tissues at my first examination seemed perfectly healthy, and now considerably swollen and abraded, presenting an ugly appearance. It was most suspicious and I was somewhat puzzled as to its nature, but I treated it the best I could and he retired, only to return a few days later to tell me that it was rapidly increasing; and on looking I found that it had considerably extended along the alveolus.

With a probe I entered the mass, and, as there was only the slightest pain, concluded to see how far it would go, and, to my surprise, it first came in contact with necrosed bone which it penetrated, and continued on to the floor of the orbit. Hæmorrhage resulted through the natural orifice, but soon ceased. I now decided that I had cancer to deal with, so excised a portion; I examined it microscopically myself and had it examined by the pathologist at Harvard, my diagnosis being confirmed. The increase was very rapid, and soon prevented closure of the jaws and extended the whole length of the palate. Hæmorrhage on several occasions was profuse. The fetidity was extreme and remained about the same from the first time I saw him.

There was nothing in this case at first to indicate disease of antrum excepting the shadow test and odor; no pain, swelling, redness, discharge, or pressure. He died twenty-five days after I first saw the sore.

I should have stated that toward the last there was displacement upward of the floor of the orbit and walls of the nose, severe pain in the eye, etc.

**CASE II.**—A woman, twenty-four years of age, had a fetid discharge from the right nostril, and after irrigation and drying I found the middle meatus bathed with thick pus and partially blocked with some small polypi, which were removed. Antiseptic washes were used in the shape of sprays, and after a few days the discharge abated greatly, but as the patient reclined on the left side more pus would at once appear. Here it was evident that we had a case of empyema of the antrum to deal with. All teeth were in place and healthy.

By the use of Hartmann's cannula the sinus was quite easily reached and washed with medicated lotions several times daily with good effect temporarily, but a few months later the patient was worse than at first. By electric illumination the left side was very clearly lighted, while the right side was quite dark.

An operation was decided upon and anæsthesia produced by bromide of ethyl, and the antrum opened and pus removed through the artificial opening and the nasal fossa. I could find no cause for the trouble. There was some thickening of mucosa, which would account for the shadow.

I treated it by boric-acid solution at first and later

with zinc chloride, ten grains to the ounce, and the repair was perfect. In this case, as is shown, it seemed impossible to obtain good results through the nasal fossa.

CASE III.—Steven J., aged sixty-four years, mechanical engineer, was kicked on the nose by a horse without a shoe, ten years previous. There was considerable swelling and inflammation at the time and stoppage of the nostrils. From that time he has had constant trouble.

The septum was deflected to the left side and there was marked hypertrophy of the right middle turbinate. There were several polypi in each nostril and very little pus. He was a great sufferer from asthma. Both antra were in deep shadow under the electric light. I removed the polypi and hypertrophied tissue.

I gave chloroform and, as usual, opened through the canine fossa into both antra. On the left side the antrum was divided by a septum, locking up a quantity of pus of extreme fetidity. I irrigated and found the mucous membrane much infiltrated.

On my attempting to break through the septum the whole thing was found in a state of necrosis and immediately collapsed; behind, the cavity was plugged with a thick purulent caseous mass. I curetted very freely, irrigated, and put in a drainage-tube. The right side was found one of simple empyema and thickened mucosa, with an inspissated mass blocking up the nasal orifice. It was curetted and carefully treated. On this side the repair was quick and thorough, but the left remained some time in a diseased condition; but by persistence and keeping the opening patent, the repair eventually became perfect. The nares remained free of disease, asthma disappeared, and he became as it were a new man.

In the two cases mentioned the restitution was so perfect that the light reflex became clear. The discharge is free through the natural orifice, and the health is much improved.

In many cases I find ear complications, particularly tinnitus.

215 JEFFERSON AVENUE.

## SEASICKNESS: ITS CAUSE AND RELIEF.

By JAMES L. MINOR, M. D.,  
MEMPHIS, TENN.

In the *Memphis Journal of the Medical Sciences* for October, 1889, I advanced the theory of the aural origin of seasickness, basing my conclusions upon The Freedom of Deaf-mutes from Seasickness, and its Bearing upon the Theory of Seasickness and its Treatment, which was the title of my article. In a trip across the Atlantic I had observed the entire absence of all symptoms of seasickness in a party of five deaf-mutes. Indeed, their freedom from any annoyance of the kind, and the excellent appetites they enjoyed and gratified, while others around them were suffering from seasickness, excited general comment. Inquiry elicited the fact that deaf-mutes so rarely suffered from seasickness as to be, as a class, practically free from the disorder under all circumstances. Through the courtesy of Mr. Hasen-

tab, of the Illinois Institute for the Deaf, at Jacksonville, Illinois, who was one of the party, it was learned that out of a party of twenty-two deaf-mutes who crossed the Atlantic two months previously, not one suffered in the slightest degree from any form of seasickness, and yet a number of other passengers succumbed to it. Later, this party crossed that most trying of all bodies of water, the English Channel, and the same immunity was observed, though the passage was a rough one, and almost every other passenger on board became seasick. He also told me that he once made the trip from San Francisco to Portland by sea, with about thirty other deaf-mutes, that only one of these suffered from seasickness, and he had some disease of the ears which often caused dizziness and nausea at other times.

When it is remembered that only about three per cent. of persons crossing the ocean are entirely free from seasickness, it becomes evident that there must be some special cause for this freedom from it in deaf-mutes; and as the condition of the ears constitutes the only difference between the deaf-mute and the ordinary individual, it is naturally sought here.

It may be well to recall the fact that both physiological experiment and pathological observation point to that part of the inner ear known as the semicircular canals as exercising a controlling influence over the maintenance of the erect posture and the sense of equilibrium—functions frequently disturbed on shipboard.

It is generally conceded that seasickness is produced by the frequent and rapidly changing motions of the ship—conditions which it is the function of the semicircular canals to recognize and influence. Symptoms very similar to those of seasickness can be produced by turning around rapidly and frequently, or by swinging, and the cause is probably the same in each instance. And in diseased conditions of certain parts of the inner ear—the semicircular canals, in Ménière's disease—the symptoms are somewhat like those of seasickness.

Certainly if the foregoing deductions make probable the theory that the semicircular canals are sometimes concerned in the production of seasickness, then reasoning by induction establishes it beyond a doubt.

Deaf-mutes do not become seasick, nor do they suffer inconvenience—dizziness or nausea—when turned rapidly around, or when swinging. Moreover, it is a well-known fact that only in the irritative form of disease of the semicircular canals do dizziness, etc., appear, and that destructive disease of these parts does not produce either dizziness or nausea. Moos reports a case in which, after the falling out of a necrosed semicircular canal, deafness appeared, and with it permanent cessation of severe dizziness. And I have observed the same thing in one of my patients.

In deaf-mutes there is absolute deafness, or very great reduction in hearing, dependent upon destruction or serious impairment of function of the peripheral distribution or sound-perceptive elements of the audi-



tory nerve, in which process the semicircular canals are included.

These facts must force one to the conclusion that the reason why deaf-mutes do not suffer from seasickness is owing to the fact that their semicircular canals are destroyed or their sensibility impaired; and it is equally rational to suppose that others who suffer from seasickness do so because they have semicircular canals which are irritated by the frequent and varied motions of the ship.

Now, if by the use of any agent the semicircular canals can be anæsthetized, the value of these conclusions would be settled at once. I suggested the use of oleate of cocaine, putting a few drops in the ear every day or two, or oftener if necessary. Living in an interior town, however, I have had no opportunity of trying the drug in genuine cases of seasickness, and have had to limit myself to the induced and certainly allied affection—the dizziness and nausea produced by rapidly turning around. The results obtained have surpassed my expectations, and certainly suggest that the local use of cocaine in the ears may prove a most valuable remedy against that *bête noire* of ocean travel, seasickness.

I experimented with twenty-four healthy-eared individuals, and found that forty revolutions to the minute constituted rapid turning; that three or four such revolutions were sufficient to cause dizziness and often a sense of nausea; that three drops of an eight-per-cent. solution of cocaine oleate, dropped into each ear, diminished the susceptibility to dizziness, etc., to such an extent that more than double the number of revolutions could be made before any inconvenience was felt; that when, from continued turning, the dizziness, etc., came on after the use of the cocaine, it was less pronounced and more transient than without it.

The effects of the cocaine begin to manifest themselves in from twenty minutes to half an hour, and last from four to six hours.

I should say, then, that seasickness was a manifestation of irritation of the semicircular canals caused by the frequent and varied movements of the ship; that any drug which will lessen the irritability of the semicircular canals was a rational remedy for seasickness, and that a solution of cocaine dropped into the ears was such a remedy.

### Therapeutical Notes.

**Ichthyol in the Treatment of Intestinal Disorders.**—Guinzburg (*Médecine moderne*, May 13, 1896; *Therapeutique Gazette*, September, 1896) has strongly recommended the use of ichthyol in intestinal disorders, particularly those which accompany affections of the genito-urinary tract in women. The dose is four or five grains a day, preferably in keratin-coated pills, which are believed to pass through the stomach undissolved—

thus disagreeable taste and eructations are avoided. The medicine is best given some little time after meals. Good results were obtained in cases of diarrhœa: the appetite improved, the abdominal pains were much decreased, and the patient gained in weight; at the same time, if there was a tendency to menorrhagia, the menstrual function became more nearly normal. The best results were in cases of rebellious constipation. He failed to meet with any disagreeable symptoms such as are recorded by Bouchonief, who found that in persons suffering from renal disease or from chlorosis ichthyol was apt to produce loss of appetite, nausea, and vomiting. He attributes these disagreeable results to too large doses.

**Note on the Treatment of Measles.**—The following abstract from the *Lancet* for June 20th is published in the September number of the *Glasgow Medical Journal*: In the early part of the present year, an epidemic of measles of severe type attacked Northampton and the neighborhood. This afforded an opportunity to study the effects of treatment upon a large scale, and Mr. Dunley Owen, who had under his care upward of three hundred of the affected children, expresses the conviction that his low death-rate—only four children died—was due to the steady application of jacket poultices to the chest. He ordered the poultices as soon as there was reasonable ground to suspect an attack of measles, and before the rash appeared. This proceeding, he believes, lessens the risk of pulmonary complications assuming a serious form.

**A New Traumaticin.**—According to the *Revue internationale de médecine et de chirurgie* for September 25th, a form of traumaticin that is used in the dermatological clinic in Berne is made by Ducommun's method, that is, by mixing a watery solution of soap with a solution of alum. A magma consisting of a compound of aluminum and fatty acids is formed. The excess of water is squeezed out of this mass with the fingers, and the residue, while still moist, is dissolved in ether.

**The Mignonette as a Vermifuge.**—The *Journal de médecine de Paris* for October 4th states that in Russia the mignonette (*Reseda luteola*) has long been held in great popular esteem as a remedy against tapeworm, and tells of a woman who, fasting, took a very strong decoction of the flowers and then a large dose of castor oil, and three hours afterward voided the tapeworm in the form of a ball.

**An Application for Furuncles of the Eyelid.**—Lan-dolt and Gigax are credited in the *Wiener klinische Rundschau* with the following formula, intended for use in stubborn cases:

- |   |                       |                    |            |
|---|-----------------------|--------------------|------------|
| R | Tincture of camphor,  | { of each. . . . . | 15 grains; |
|   | Precipitated sulphur, |                    |            |
|   | Limewater,            | { of each. . . . . | 150 "      |
|   | Rose water,           |                    |            |
|   | Gum arabic. . . . .   | 3 "                |            |

M. To be painted on the lids once a day.

**Naphthalene in the Treatment of Dysentery.**—Kartulis (*Semaine médicale; Progrès médical*) recommends the following formula:

- |   |                              |                |
|---|------------------------------|----------------|
| R | Naphthalene. . . . .         | 15 grains;     |
|   | Calomel. . . . .             | 8 "            |
|   | Essence of bergamot. . . . . | 3 drops;       |
|   | Sugar. . . . .               | a sufficiency. |

M. Divide into ten wafers. One to be taken every hour.



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A COMPLAINT AGAINST THE PARIS PASTEUR  
INSTITUTE.

It is well known, says the *Journal de médecine de Paris*, that for several years now the Institut Pasteur has been a commercial establishment, a sort of factory for pharmaceutical products intended for subcutaneous employment. In the rue Dutot they sell viruses against diphtheria, against puerperal fever, etc.; furthermore, the establishment has obtained the monopoly of the manufacture of these various products. It is not generally known, however, that the institute has extended its operations and now makes also viruses for the destruction of injurious animals, such as insects. A learned foreigner attached to the concern, M. Danysz, has just discovered a virus sure to kill rats and mice, but the system, cried up with the usual flourish of trumpets, has not given the results expected of it.

A well-known veterinarian, M. Eloire, has published in an Amiens agricultural newspaper an article in which he states with regret that he has carried out the Danysz process conscientiously and has failed completely. Moreover, he declares that viruses prepared in the institute and intended to be used as preventives of diseases of animals have proved equally inefficacious. This is not the first time, he says, that there has been reason to complain of the products of the establishment founded by the lamented Pasteur. The chicken-cholera "vaccine" was only the starting point of gross errors, and they have returned to it. The rabbit cholera made a complete failure in Australia in the hands of M. Loir, a pupil and relation of the master, and last year the anthrax "vaccine" caused M. Eloire very serious disappointments, so that the mortality in the herd kept on after the inoculation quite the same as before it.

M. Eloire promises to recur to this highly interesting matter at some future time. In the mean time he remarks that the preventive inoculation of rabies leaves so much to be desired that it is not worth while to insist on it. As for the Danysz viruses, he says, they are a continuance of the unfortunate series of uncontrolled preparations sold for their weight in gold and not worth a nail. He protests that he is far from denying the discoveries of the illustrious master of French science; on the contrary, he says he is one of the constant patrons

of the "vaccine-mill," and it is precisely in this capacity that he finds the products of the institute too often lacking in the quality that one has the right to expect in articles obtained from such a source. Etiquette, he adds, is sometimes of no value.

Our Paris contemporary declares that this accusation comes from too good a source not to find an echo in the medical and veterinary world, and it reminds Dr. Roux and M. Duclaux, the successors of the illustrious founder, that they have a serious duty to fulfill, in which it hopes they will not fail.

PÆDIATRICS AS A SPECIALTY.

DR. SAMUEL W. KELLEY, the editor of the *Cleveland Medical Gazette*, has made a study of the extent to which pædiatrics is taught in the medical schools of the United States and Canada and in some of the schools in the United Kingdom. In a presidential address delivered before the Ohio State Pædiatric Society last May, published in the September number of the *Gazette*, he gives the points as to which he especially inquired and the information as to facts that he received from the various schools, together with expressions of opinion—very diverse, it may be remarked—concerning the degree to which it is practicable or desirable to make the diseases of children an exclusive specialty. What he says shows very plainly that during the last ten years great progress has been made in the teaching of pædiatrics, and that the branch has been so raised in rank in the curriculum that in several schools an examination in it must be passed satisfactorily or the candidate can not get his medical degree. We rarely hear now of a man's being "professor of obstetrics and diseases of women and children," which was quite the regular thing thirty years ago.

With regard to the strict specialization of pædiatrics, Dr. Kelley himself seems to expect it and to consider it desirable. He does not agree with those who expect it to do no more than keep pace with the march of general medicine and surgery. The progress it has made in the past twenty years, the number and value of recent additions to its literature, the promptness with which every new discovery in medicine is applied to it when practicable, and the zeal with which earnest workers are pursuing special investigations in it make him believe that pædiatrics is destined to make a rapid advance before long. He thinks that within the next decade it will stand out as distinct a specialty as gynecology, but he hopes it will not be "boomed" to the same extent as gynecology was when almost every doctor seemed "possessed with the idea that nothing less

than God's final and finest piece of handiwork was good enough for him to practise upon." He does not think pædiatrics will ever be so overdone.

### MINOR PARAGRAPHS.

#### RUPTURE OF THE URETHRA DURING COITUS.

Dr. H. GANZ (*Prager medicinische Wochenschrift*, 1896, No. 26; *Centralblatt für Chirurgie*, September 19, 1896) relates the case of a man who was attacked during coitus with a severe pain in the region of the neck of the glans penis and a considerable hæmorrhage from the urethra. He found the penis quite tender, but neither swollen nor ecchymotic; so it is doubtful if the injury extended beyond the mucous membrane.

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 13, 1896:

DISEASES.	Week ending Oct. 6.		Week ending Oct. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	35	7	29	5
Scarlet fever.....	48	7	51	1
Cerebro-spinal meningitis....	0	0	1	1
Measles.....	20	6	39	5
Diphtheria.....	169	16	173	25
Tuberculosis.....	158	107	109	75

**The Late Dr. William Remsen Taylor, of Astoria.**—At a special meeting of the medical board of the Astoria Hospital, held on October 6, 1896, action was taken as follows:

The medical board desire to pay tribute to the memory of William Remsen Taylor, M. D., late president of this institution.

*Whereas*, The medical board, in the death of Dr. Taylor, have lost their first executive officer and long-tried friend; therefore be it

*Resolved*, That the medical board cause to be spread upon the minutes of its records their resolutions of appreciation and sorrow.

*Resolved, further*, That the sympathy of this board be extended to the members of his family; also that a copy of these resolutions be forwarded to them and be published.

[Signed,] NEIL O. FITCH,  
JAMES D. TRASK,  
CLARENCE N. PLATT, ) Committee.

**The Late Dr. Edward S. Farrington.**—The West End Medical Society has issued the following:

It is with deep regret that we learn, at this our first meeting of the year, of the death of our esteemed fellow-member, Dr. Edward S. Farrington, who died on September 7th, of typhoid fever.

He was a man of fine character, scholarly attainments, and attractive personality, and was held in high esteem by all who knew him.

We feel that by his death both the society and the individual members thereof have lost a valuable associate and a good and loyal friend.

We hereby resolve that these, our expressions of regret and appreciation of our loss be spread upon the minutes of this society, and that copies thereof be transmitted to his family and to the current medical journals.

[Signed,] CYRUS J. STONG,  
HOWARD GILLESPIE MYERS,  
CHARLES GOOD,  
EDWARD L. WILLIAMSON, ) Committee.

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 13th inst., the following papers were to be read: 'The Use of the Stomach Tube, by Dr. A. L. Benedict; Acute Pleural Effusions in Children, by Dr. J. C. Clemensha; and The Dangers of Over-bicycling, with a Report of a Case, by Dr. W. C. Krauss.

**The Society of Medical Jurisprudence.**—At the last regular meeting, on Monday evening, the 12th inst., a paper entitled *The Enemies of Sanitary Science* was to be read by Dr. Daniel Lewis.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 27 to October 10, 1896:*

DAVIS, WILLIAM B., Captain and Assistant Surgeon, will be relieved, by direction of the Secretary of War, from duty as attending surgeon and examiner of recruits in Newport City upon the expiration of the leave of absence granted him in S. O. No. 230, A. G. O., September 30, 1896, instead of the conclusion of his examination for promotion as heretofore ordered by Paragraph 2, S. O. No. 214, A. G. O., September 11, 1896.

DE SHON, GEORGE D., First Lieutenant and Assistant Surgeon, is granted leave of absence for four months, to take effect after he shall have reported for duty at Washington Barracks, D. C.

By direction of the Secretary of War, ALDEN, CHARLES H., Colonel and Assistant Surgeon General, and DE WITT, CALVIN, Major and Surgeon, are detailed as delegates to represent the medical department of the army at the Second Pan-American Medical Congress to be held in the City of Mexico from November 16th to November 19th.

#### Promotion.

DAVIS, WILLIAM B., Captain and Assistant Surgeon, to be Surgeon with the rank of Major, August 11, 1896, vice WORTHINGTON, deceased.

#### Society Meetings for the Coming Week:

MONDAY, October 19th: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Boston Society for Medical Improvement; Cleveland Society of the Medical Sciences; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, October 20th: New York Academy of Medicine (Section in General Medicine); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Kings, St. Lawrence (semi-annual), and Westchester (White Plains), N. Y.; Hunterdon, New Jersey, County Medical Society (Flemington); Baltimore Academy of Medicine.

WEDNESDAY, October 21st: Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, October 22d: New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopedic Society; Brooklyn Pathological Society; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, October 23d: New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association (private), New York; Philadelphia Clinical Society; Philadelphia Laryngological Society; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society.

SATURDAY, October 24th: New York Medical and Surgical Society (private); St. Louis Medical Society.

#### Answers to Correspondents:

No. 452.—1. We know of no book on the subject. 2. Of the Health Department of the City of New York.

No. 453.—1. Emmet's *Principles and Practice of Gynecology*. 2. Bernutz and Goupil.

## Births, Marriages, and Deaths.

### Married.

BULLOCK—RODENBROUGH.—In New York, on Thursday, October 8th, Dr. Earl Sprague Bullock and Miss Nina Rodenbrough.

EVANS—THOMPSON.—In Milwaukee, on Thursday, October 8th, Dr. Robert Evans, of Fort Dodge, Iowa, and Miss Mercie Thompson.

GRANT—BOISSEAU.—In Allendale, Louisiana, on Thursday, October 8th, Dr. Robert L. Grant, of Texarkana, Texas, and Miss Bettie Boisseau.

SIMMONS—ANDREWS.—In Alexandria, Louisiana, on Wednesday, October 7th, Dr. R. O. Simmons and Miss Laura Andrews.

STEWART—MORRIS.—In New York, on Wednesday, October 14th, Dr. William Holmes Stewart and Miss Florence M. Morris.

### Died.

BRAGDON.—In Martinez, California, on Thursday, September 3d, Dr. Edmund Bragdon, aged fifty-three years.

BUCKALEW.—In Pollock, Louisiana, on Sunday, October 4th, Dr. W. B. Buckalew, aged fifty-five years.

GEHLBACH.—In New Orleans, on Monday, October 5th, Dr. Charles Gehlbach, aged forty-six years.

O'SULLIVAN.—In Brooklyn, on Sunday, October 11th, Dr. George B. O'Sullivan, aged thirty years.

PARDEE.—In Oakland, California, on Tuesday, September 22d, Dr. E. H. Pardee.

TRENOR.—In Alameda, California, on Thursday, September 17th, Dr. Eustace Trenor, aged sixty-two years.

## Letters to the Editor.

### A METHOD OF TREATING CANCER.

No. 1037 CAROLINE STREET, BALTIMORE, October 13, 1896.

To the Editor of the New York Medical Journal:

SIR: The article in the October 10th issue of the *Journal*, Chelidonium in the Treatment of Cancer, interests me much. You say you hope this simple treatment will have further trials in combating so dreadful a disease as cancer. Will you let me come into the fold with a treatment quite as simple and speedy as it? I allege nothing new for my treatment, but know it has been successful, in my hands, in such cases as I have come across in my general practice.

Stated briefly, I proceed as follows: Given a case of epithelioma or other form of cancer, I first carefully cleanse the surface of the diseased part with pyrozone, then dry it carefully. Using a ten-per-cent. solution of cocaine, I make the part fully anæsthetic. To the surface I then apply a full-strength solution of sodium ethylate. This strength is got by allowing the crystals (Merck's) to deliquesce. Then I apply a powder made as follows:

B. Acetanilide . . . . .	1 drachm ;
Aristol . . . . .	2 drachms ;
Boric acid . . . . .	1 ounce.

This powder is put on thick over the whole diseased surface. I then spread lightly with vaseline a piece of sheet wadding large enough to cover the whole surface, and put absorbent cotton and a bandage over this. This treatment is repeated as often as necessary, and a cure follows in from two to five weeks, according to the

amount of tissue involved and the patient's general condition.

During the time of treatment, the patient gets internally a three-grain tablet of protonuclein (R. & C.) three times a day. This is a most necessary part of the treatment. The value of protonuclein to increase the white corpuscles I need not dwell on here. Sufficient it is to say I believe the other treatment would be valueless without help from this agent.

I place my patient in such a position as to bring the bottom of the area horizontal, and fill the cavity with pyrozone, first having wiped all secretion carefully away, because this saves time. Then when the "boiling" ceases I dry the parts with absorbent cotton and pour in the cocaine, wait five minutes for it to act, and then dry it out with the cotton.

There is no more painful caustic than the ethylate, and even the precaution of using cocaine does not always entirely control the pain. When the ethylate touches the surface a peculiar change is noticed. If the wound is clean the fluid spreads itself out rapidly, and where there is diseased tissue the part instantly turns black. The rest of the surface becomes brown. If the wound is not clean and is filled with the discharge of the cancer, the whole surface turns black.

One application is made at first over the whole surface. As soon as the black color is seen, the preparation becomes very gummy and tenacious, and should not be disturbed. Then the powder is dusted on, packing the wound fully. Considerable edema follows the first application, but soon disappears, and any pain stops as soon as the caustic action ceases by all of the agent being used up. The protonuclein no doubt helps here materially to remove the edema.

The vaseline is used on the wadding to prevent the dressings from sticking to the wound, and the cotton over it catches any discharge. It is remarkable what a soothing effect the vaseline has to the wound, and perhaps it aids in limiting the pain.

It is my practice to see the patient and dress the sore every second day, beginning just as if the case were a new one. But I am careful, as the cure progresses, to touch only such points as show disease and to avoid any forcible removal of dressings, so as not to disturb the parts and to prevent bleeding. It is necessary to use a glass rod in applying the ethylate, because of its excessive corrosive action, and it is almost impossible to keep it in a glass-stoppered bottle. I keep it in small corked bottles and am careful not to let it touch the cork.

I have had four cases of epithelioma this year and have cured them all by this method. If this is worthy of room in your columns I shall be glad. For if it is the means of curing one case I shall consider my time very well spent. I will answer any questions gladly so far as I am able, and will show one cure, in a patient who has consented to this, to any physician who is near enough and who is interested.

For six years I have looked for a cure for epithelioma, and feel very sure that this treatment will answer in nearly all cases. I do not allege it to be a specific by any means. I do not remember where I first heard of the ethylate. It is interesting to note, however, that in the *Medical Summary* for October brief mention is made of such use for this agent. I use acetanilide and boric acid because of their well-known germicidal properties, and aristol because we have no better healing and scar-forming agent. ALBERT S. ATKINSON, M. D.



## THE UNAUTHORIZED USE OF A NAME.

BACTERIOLOGICAL DIVISION OF THE BUREAU OF HEALTH,  
PHILADELPHIA, October 6, 1896.*To the Editor of the New York Medical Journal:*

SIR: My name has been recently coupled with a recommendation of a certain patented disinfectant. This has been done in the newspapers, and also in some of the medical magazines. I wish hereby to protest emphatically against any such use of my name. It has been done without my knowledge or consent.

B. MEADE BOLTON, M. D.

## FATAL CASES OF HICCOUGH.

No. 1138 MADISON AVENUE, NEW YORK, October 13, 1896.

*To the Editor of the New York Medical Journal:*

SIR: I should be greatly obliged to you if you would be kind enough to allow me to say through the columns of your valuable journal that I should be greatly pleased to have the addresses of the medical gentlemen who have had the opportunity of attending cases of protracted (and in most instances, I believe, fatal) hiccup, that have been mentioned lately in the telegraphic news of our daily papers.

H. ILLOWAY, M. D.

## Reports on the Progress of Medicine.

## OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

**Acute Infantile Inflammation of the Labyrinth.**—

Compaired (*Rev. hebdom. de laryngol. et d'otologie*, May 16, 1896) considers it of extreme rarity, as the aurist usually sees the case after the damage has been done. The disease advances with alarming rapidity and is accompanied by grave symptoms of an obscure nature, which, however, are not appreciated in many cases, and are often confounded with those of acute meningitis. The case naturally comes under the care of the family physician, and is treated as acute meningitis, typhoid fever, acute hydrocephalus, etc. In the first case cited, the labyrinthine inflammation followed a parotiditis. The second case seemed to be primary and its cause was unknown. The disease is often confounded with typhoid fever and infantile meningitis. In typhoid fever the deafness appears at an advanced period of the disease, while in labyrinthine disease it is an early symptom. In typhoid fever vertigo is not present, while in labyrinthine disease it is never absent. In typhoid fever there is not in the beginning any headache, or pain in the ear, or delirium, all of which are present early in labyrinthine disease. Meningitis is almost always fatal, while most cases of labyrinthine disease recover. The paralytic met with in meningitis do not occur in labyrinthine disease.

**The Pathological Changes in the Labyrinth.**—Politzer (*Rev. de laryngol. et d'otologie*, November, 1895) divides these changes into three classes: 1. Hyperemia. 2. Hemorrhagic extravasations. 3. Inflammation, whether primary or secondary, and its consequences.

The anatomical changes produced in the course of infectious maladies come from the invasion of specific

microbes or of purulent matters into the labyrinth. These changes are more or less intense, according to the degree of inflammation, and consist of swelling and thickening of the labyrinthine lining, numerous filaments extending between the bony walls and membranous parts. These may exist in the aqueduct of the vestibule, in the ramifications of the auditory nerve, or in the bony cavities of the petrous bone. These changes are very much the same in all infectious diseases. The disorganizing effect of the streptococcus is shown by a fatty degeneration of the endothelium of the blood-vessels, leading to coagulation and thrombosis in these vessels.

The changes which result from cerebro-spinal meningitis come from a suppurative inflammation of the labyrinth, and consist in a destruction and atrophy of the membranous labyrinth and ramifications of the auditory nerve, partial or total destruction of the organ of Corti, atrophy of the cells of the spiral ganglion, and a deposit of detritus, with neoplastic formation of connective tissue and partial ossification of the latter.

Secondary lesions of the labyrinth frequently occur in the course of chronic suppuration of the middle ear, sometimes without appreciable lesion of the labyrinthine wall, by extension of the pathological changes through the blood-vessels and lymphatics. Any obstacle in the internal auditory canal which compresses the blood-vessels within this canal may lead to exudations into the labyrinth.

The labyrinth may also be affected in cases of leucæmia as follows: 1. By the new formation of connective and bony tissue in the tympanic wedge of the cochlea. 2. By complete invasion of the semicircular canals by connective tissue. 3. By the accumulation of lymph cells within these canals, in the vestibule and cochlea.

Syphilis produces similar changes in the labyrinth. We find hyperostosis of the temporal bone, narrowing of the labyrinthine cavity and internal auditory canal, proliferation of the labyrinthine capsule, narrowing of the oval window, and ankylosis of the stapes. One of the rarer results of syphilis is atrophy of the cells of the spiral ganglion and of those of the nerve fibres of the acoustic nerve in the cochlea, and infiltration of the vascular walls with small cells.

Tuberculosis produces similar changes in the labyrinth, although no case of primary tuberculosis of this region has ever been reported.

**Permanent Artificial Perforation of the Drumhead.**

Miot (*Rev. hebdom. de laryngol. et d'otol.*, June 28, 1896) draws the following conclusions from his observations of certain cases of dry otitis media: The best means of completing the diagnosis is to make an incision in the posterior half of the drumhead, along the bony case, which improves the hearing, and should be large enough to see the incudo-stapedal articulation. To obtain a permanent opening is to remove the drumhead and the long process of the malleus, and place a plug of cotton for a few days *in situ*. The hearing after this operation is very variable, being sometimes better and sometimes much worse.

**Irrigation of the Drum Cavity by Means of a New Sound.**

—Courtaud (*Ann. des mal. de l'oreille et du larynx*, May, 1896) has devised a new hollow sound, absolutely rectilinear, with a lateral orifice at its extremity, which can work in a groove fixed in a handle, which makes an angle of a hundred and twenty degrees with the axis of the sound. Attached to a syringe by means

of a short rubber tube, the handle is seized between the left thumb and index finger, and the sound is introduced directly into the drum cavity through the perforation in the drumhead. The sound will do no damage if the patient moves, as it is rectilinear. The force of the injection may be graduated by more or less energetic pressure on the piston of the syringe.

**Tinnitus Aurium and Some Results obtained by its Treatment with Coniine Hydrobromide.**—Gomez (*Ann. of Ophth. and Otol.*, January, 1896) here reports the results of treatment by coniine hydrobromide of twenty-three cases of tinnitus aurium. Six cases were very much improved, six were slightly improved, one was entirely cured, and ten were not benefited at all. The best results were obtained in the cases in which both middle and internal ears were affected. The largest dose given was a thirtieth of a grain, and anything higher than this usually gave rise to gastric disturbances.

**The Electrical Treatment of Tinnitus Aurium.**—Jones (*Arch. of Otol.*, xxiv, 2 and 3) states that many patients can be relieved of the distressing symptom of tinnitus by a course of galvanism. He thinks that the auditory nerve can be acted upon in the best way by a bifurcated or divided electrode which can be applied to both ears at once. The parts in contact with the skin should be not less than two centimetres in diameter. A pad of moist absorbent wool should be placed between the electrode and the skin. The indifferent electrode is placed at the back of the neck, and a galvanometer and a rheostat should be included in the circuit, which enables the operator to introduce or remove a resistance of ten thousand ohms quite gradually. When everything is ready, the current is slowly and steadily raised by the current collector to five milliamperes. As the resistance of the skin diminishes, the current will increase slowly, the galvanometer being allowed to indicate eight to ten milliamperes. If the current should rise higher, the rheostat must be brought into use to keep it at the proper strength. The effect of the application of the anode to the ears should be to diminish the noises; that of the cathode to increase them. The reverse sometimes happens, however, and therefore the patient must be tested to find out whether the current modifies the sound. If diminution of the sounds be produced, the prospects of improvement are good. If neither the anode nor cathode alters the sounds the prognosis is unfavorable.

**Trephining the Mastoid.**—Castex (*Rev. hebdom. de laryngol. et d'otol.*, June 20, 1896) draws the following conclusions from his observations:

1. The great utility of opening the mastoid in young patients, who have not been cured of chronic suppurative discharges by medical treatment.
2. The importance of Henle's spine in discovering the mastoid antrum.
3. The possible anomalies in the situation of the lateral sinus, which may lie close to the anterior border of the apophysis.
4. The advantages of moist dressings and of disinfection of the nasopharynx in purulent inflammation of the middle ear.

**Mastoiditis with Sero-mucous Effusion; Evacuation by Compression of the Air in the Auditory Canal.**—Courtade (*Ann. des mal. de l'oreille et du larynx*, February, 1896) is of the opinion that in certain forms of acute suppurative otitis media the mastoid apophysis participates in the inflammatory process and becomes

filled with a sero-mucous liquid. The symptoms of this variety of mastoiditis are much less pronounced than those of the suppurative variety. The evacuation of the liquid is usually effected by the simple compression of the air in the auditory canal by means of Siegle's speculum.

**A New Mastoid Retractor.**—Thorner (*Ann. of Ophth. and Otol.*, iv, 4) has devised an instrument which consists of a flat S-shaped piece of steel or German silver, about an inch and three quarters long and three quarters of an inch broad. One of the extremities is shaped into a three- or four-pronged hook, while the other extremity forms a blunt, broad retractor bent in the opposite direction. When the bone is well denuded and the periosteum pushed aside, the prongs of one retractor are well hooked below the periosteum of the posterior margin of the wound, and the prongs of the other retractor below the parts of the anterior margin. Then a long strip of sterilized gauze about an inch and a half broad is folded in its middle over the blunt end of the anterior hook, drawn across the forehead and around the head of the patient, and fastened tightly over the blunt hook of the posterior retractor. In this manner the parts are not only held firmly separated, but the traction exercised upon the hooks by the strip of gauze or a rubber ring acts to a certain degree in a hæmostatic manner.

**Modification of the Operative Technique in Perforation of the Mastoid Apophysis.**—Courtade (*Ann. des mal. de l'oreille et du larynx*, February, 1896) has devised a retractor which fixes methodically the point for trephining. It consists of an ordinary surgeon's spatula bent at an elbow, one end of which has been narrowed so as to leave a beak four millimetres long on the prolongation of the median ridge on one of the surfaces of this instrument. As the spatula has a width of nine millimetres, a shoulder is formed on each side of the beak three millimetres wide. After the incision of the soft parts, two or three millimetres behind the retro-auricular groove, the periosteum is dissected up from the apophysis and from the posterior face of the auditory canal for a moderate extent. The spatula retractor is then so placed that its beak is directed about at the middle of the posterior wall of the bony canal and abuts against it when the assistant draws it forward. The retractor can not penetrate the auditory canal because of the presence of the shoulder on each side of the beak. The surgeon should then trephine the bone a few millimetres behind the spatula and within the space marked by the width of the latter, which will bring the opening directly in the dangerous zone.

In the child, the surgeon must be guided by the crest of the instrument which is found in the median line, which corresponds to the middle of the posterior wall of the bony meatus.

Another advantage of this spatula retractor is that it acts as a hæmostatic by compression of the anterior lip of the cutaneous wound.

**Certain Anomalies in the Mastoid Region.**—Moure (*Rev. hebdom. de laryngol. et d'otol.*, June 13, 1896) reports the results of his last thirty-four operations on the mastoid. In eighteen acute cases he found the antrum normal in size and position in fourteen. In three cases it was notably enlarged. In one case the antrum was very small, situated in front of the drum behind the posterior wall of the canal, and the lateral sinus occupied its place. The remaining sixteen cases were all cases of chronic suppuration. In seven he found an



eburnated apophysis with very small antrum, and in six of these it could not be found when the apophysis was opened in the usual way. In three other cases the antrum was very small, and the rest of the apophysis was replaced by the lateral sinus which was applied to the posterior wall of the auditory canal. In five cases the antrum was enlarged, but in only one of these was there any cellular structure in the apophysis.

**Right Suppurative Otitis Media; Extensive Thrombosis beginning in the Right Petro-squamous Sinus; Left Cerebellar Abscess.**—Cleveland (*Arch. of Otol.*, xxiv, 2) reports an interesting case of this sort in a boy aged six years. The boy had had earache with continuous discharge for about six months. There were two perforations in the drumhead. One month later the boy became drowsy, vomited, and had a rise of temperature. Ten days later the drumhead was incised and the pain relieved. At no time was there any symptom of trouble in the mastoid, but as the drowsiness continued, an exploratory opening was made in the bone with negative result, although the incision was carried into the digastric fossa for a considerable distance. The boy died comatose on the next morning. At the autopsy the longitudinal sinus was almost empty. At the anterior extremity of the petro-squamous sinus, on the right side, necrosis had taken place and pus had entered the sinus, causing a thrombus which extended backward into the lateral sinus. The right lateral sinus contained a purulent-looking thrombus which extended down into the jugular vein and around posteriorly into the left lateral sinus. Posteriorly in the left cerebellar fossa there was a considerable amount of grayish-yellow lymph. Both occipital lobes showed at their extremities small patches of a dark greenish-red color. Similar spots were found on the superior surface of the left cerebellar hemisphere posteriorly.

**The Treatment of Otitis Externa Circumscripta with Salicylic-Acid Collodion.**—Dunn (*Arch. of Otol.*, xxiv, 2) recommends for the local treatment of furuncular inflammation of the external ear a mixture of salicylic acid, one drachm, and collodion, one ounce, applied once daily. The combination relieves also the annoying itching which is so common in dry, scaly conditions of the external canal. Its application is painful for a brief period while the film is forming, but it prevents the spread of the inflammation beyond the point affected, and limits the inflamed area by constricting the adjacent skin.

**Purulent Otitis Media; Abscess in the Cerebellum; Death; Autopsy.**—Woodward (*Arch. of Otol.*, xxv, 1) reports a case of this nature in a boy aged thirteen years. The autopsy showed a purulent pachymeningitis on the posterior surface of the petrous portion of the left temporal bone, near the internal auditory foramen. The bone was carious. No blood clot was found in the lateral sinus. Several small apertures through the wall of the sinus communicated with the purulent focus beneath the dura. Adjacent to the latter the cortex of the left lateral lobe of the cerebellum was discolored, softened, and necrosed. Incision into this lobe showed that its entire interior had been converted into an abscess cavity full of foul-smelling pus. The white matter had been entirely destroyed. One small fibrous nodule was found in the pia mater about an inch to the left of the longitudinal sinus, opposite the extremity of the fissure of Rolando.

**Remarkable Improvement of the Hearing following Ossiculectomy in a Case of Otitis Media et Interna.**—

Alderton (*Ann. of Ophth. and Otol.*, April, 1896) reports the case of a man, aged twenty-nine years, who had been deaf in the left ear for nine years and in the right ear for five years, with constant hissing tinnitus. The tympanic membranes were slightly dulled. The watch was not heard on either side. Loud speech heard at one foot on both sides. Galton whistle heard at the mark 2.5 on the right and at 2.8 on the left. Weber heard on left side. The tympanic membrane, malleus, and incus of the left ear were removed, with immediate marked improvement in the hearing; whisper heard at five feet and speech at sixteen feet. This improvement was almost obliterated by the post-operative swelling and the subsequent discharge. As the swelling and discharge abated the improvement again manifested itself, and has increased, though the drum membrane has entirely reformed. The tinnitus was markedly lessened.

**A Contribution to the Diagnosis and Treatment of Cholesteatoma in Otitis Media Purulenta Chronica.**—Scheibe (*Arch. of Otol.*, xxv, 2) thinks that combining resection of the posterior wall of the meatus with opening the antrum not only assists in removing disease products, but gives a permanent wide opening to the diseased spaces either through the meatus or back of the auricle. He draws the following conclusions: 1. If urgent symptoms exist, chiseling of the mastoid with resection of the posterior wall of the meatus is at once undertaken. At the same time Siebenmann's procedure is employed. 2. If urgent symptoms are wanting, injections and insufflations by aid of the tympanic tube may be employed after removal of granulations by snare or curette. If the passage to the aditus be too narrow the malleus is removed. 3. Obstinate persistence of fetor, in spite of continued treatment, is an indication for resection of the posterior wall, even though severe complications are wanting.

**Acute Purulent Otitis Media with Bulging of the Posterior-superior Sector of the Tympanic Membrane.**—Escat (*Rev. de laryngol. et d'otol.*, August, 1895) draws the following conclusions from four cases of the above disease:

1. There is a circumscribed form of acute purulent otitis media, isolated otitis of the attic and of the greater part of the lower story of the tympanum.
2. This otitis seems to be encysted in the posterior pocket of von Tröltsch, or at least between the mucous folds behind this pocket.
3. It is characterized clinically by a limited bulging of the posterior-superior sector of the tympanum.
4. Catheterism, made after paracentesis, shows that the cavity has no communication with the rest of the tympanic cavity.
5. The prognosis is favorable.
6. The treatment should be: 1. Paracentesis of the posterior-superior sector. 2. Aspiration with Siegle's speculum. 3. Antiseptic dressings and occlusion of the meatus with sterilized cotton wool.

**A Contribution to the Study of Acute Inflammation of the Middle Ear produced by the Bacillus Pyocyaneus.**—Pes and Gradenigo (*Arch. of Otol.*, xxv, 2) here draw attention to the real significance of the *Bacillus pyocyaneus*. Recent researches have shown that it may be classed with those pyogenic germs which are capable of producing an infection of the entire organism. Its presence must, however, be regarded as an exceptional occurrence, and can be easily recognized by the characteristic color imparted to the pus. It has frequently been found in the discharge coming from the ear. It is



virulent only when in combination with pathogenic cocci. It imparts a green color to beef tea at 37° in twenty-four hours, which increases in intensity in the following days. After about three months the color changes to an olive-green. In the tube cultures the gelatin rapidly liquefies, taking on at the same time a bright greenish-blue color. At the junction with the unchanged gelatin a yellowish-white crumbling substance is deposited. The color gradually passes to a bright orange. The gelatin of the plate cultures also liquefies rapidly, and takes on a beautiful fluorescence. On agar the bacilli grow in round colonies, which become surrounded by white or smoky rings, while the entire surface of the agar appears green and opalescent. The bacillus is always capable, though changed in appearance by artificial culture, of setting up a localized diseased condition.

**A Rare Case of External Otitis of Infectious Origin.**—Szeues (*Ann. des mal. de l'oreille et du larynx*, October, 1895) reports a case occurring in a nurse aged twenty-six years. For four days she had complained of severe pain in one ear, which was very sensitive to the touch. The canal was full of fetid pus, and its orifice reduced to a minimum. The walls of the canal were dense and swollen, but when a small speculum was introduced and the canal was thoroughly cleansed, the drumhead was found to be intact and the hearing was much improved. The submaxillary glands were much enlarged. The patient stated that the baby whom she was nursing had been vaccinated the preceding week, and she thought that she had introduced some of the discharge from the pustules into her own ear, as she frequently scratched her ear with her fingers. She also showed a vaccine pustule on her own cheek near the angle of the mouth. By the continuous application of cold lotions and daily injection of a weak solution of lysol, the swelling and discharge slowly subsided, and the latter was subsequently changed to menthol on bits of cotton. The disease lasted for three weeks, but was eventually entirely cured.

**The Microbic Character of Acute Catarrhal Otitis Media.**—Lannois (*Ann. des mal. de l'oreille et du larynx*, June, 1896) concludes from his observations that: 1. The normal middle ear in animals acts like an aseptic cavity and contains no micro-organisms. 2. The liquid of catarrhal otitis media does or does not contain microbes, according to the period at which it is examined after the beginning. 3. The disappearance of the microbes is sometimes probably due to the bactericidal power of the mucous membrane and the mucus. 4. The bactericidal action explains why the secretion rarely becomes purulent, even after paracentesis and repeated catheterization.

**The Indications for Mastoid Operations in Acute Purulent Otitis Media.**—Knapp (*Arch. of Otol.*, xxiv, 3 and 4) draws the following conclusions from his observations:

1. There is in acute otitis media no symptom which by itself constitutes a sufficient indication for mastoid operation. Neither is there any one symptom which contraindicates it, with the exception, perhaps, of deep coma. The most important symptoms are local pain, spontaneous and on pressure, headache, rise or fall of temperature, dizziness, nausea, vomiting, stupor, aphasia, hemianopsia, optic neuritis, paralysis, and coma. Choked disc from otitic brain disease may disappear with either operative or spontaneous recovery of the patient.

2. The indication for operating is derived from the ensemble of the symptoms and the course of the disease.

3. Even if the patient does well, and seems cured, he should not be lost sight of for weeks or months, for acute purulent mastoiditis is a treacherous disease.

4. Whatever the symptoms be, we should, as a rule, begin the operation by opening the antrum, and then be guided by the conditions coming into view.

**History and Autopsy of Two Cases of Fatal Otitic Brain Disease.**—Knapp (*Arch. of Otol.*, xxiv, 2) reports two interesting cases. The first case was a typical abscess in the temporo-sphenoidal lobe, caused by chronic suppuration in the middle ear, and ended fatally by cerebral pressure from a large abscess without any further complications. The autopsy showed with convincing force the importance of a careful treatment of all chronic cases of otorrhœa, especially when offensive secretion, caries, and polypi are present. Here the indications are to be met only by a radical operation, consisting in the thorough evacuation of the tympanum and its accessory cavities, including the labyrinth.

The second case was an acute otitic retropharyngeal abscess, with purulent leptomeningitis of the convexity of the anterior lobes. It began with an acute purulent otitis media of the left ear and pursued anything but a typical course. At the autopsy, after taking out the brain and removing the temporal bone, the following remarkable condition presented itself: The upper part of the tympanic cavity was full of pus, which collected along the dilated semicircular pro tensor tympani, in the tissues surrounding the tube, and formed a prominence in the upper pharyngeal cavity. A probe passed from the attic through the pus pushed forward the left half of the soft palate, and could there be felt with the index finger introduced through the mouth.

(To be concluded.)

## Miscellany.

**Intramuscular Injections of Saline Solutions in Intense Albuminuria and Uræmia.**—In the *Province médicale* for September 19th M. F. Dumarest gives a detailed account of his experience with this treatment and of the results obtained therefrom. He cites a number of cases to prove the efficacy of the treatment, and states that in two of them he was struck with the rapid improvement in the general condition and the consecutive disappearance of the edema and the albuminuria. After the injections, two orders of symptoms were observed: The first, and in some degree provisional, was the improvement in the pulse, in the energy of the heart, in the mental condition, and in the disappearance of the so-called toxic symptoms, which revealed an antitoxic influence probably connected with the dilution of the poisons. The later symptoms, polyuria, diarrhœa, and sweating, were more efficacious and more lasting, and exercised an eliminating action. Phlebotomy, says the author, may act as a substitute for antitoxic medication, but it is only a palliative, while injections of salt water possess a curative value owing to their eliminating action. M. Dumarest sums up his experience in the following conclusions: 1. These injections are not contraindicated by renal alterations. On the contrary, they exert the best influence on the toxic

symptoms due to these alterations, and even on simple albuminuria. 2. Pulmonary oedema and anasarca do not constitute an obstacle to this method; combined with phlebotomy, it is an heroic measure which should be resorted to all the more if the complications are more numerous and the situation is more serious. 3. Salt water probably acts by a double mechanism: Tonic and antitoxic in the beginning, which is palliative, and secondarily, eliminating, which is curative. 4. These injections are pre-eminently the proper means of treatment in desperate cases. In the last stages of uræmia and eclampsia they are a most powerful agent in the struggle with death.

**A Fatal Case of Poisoning with Iodoform.**—In the *Presse médicale* for September 16th we find an abstract of an article from the *Revue médicale de la Suisse romande*, 1896, page 431, in which the author reports the case of a woman in good health, who died of iodoform poisoning. On the left leg there was a small varicose ulcer which had been dressed with iodoform powder. After this treatment tunctionation set in and the leg became red and painful, and at the end of eight days there was a generalized eruption which was manifestly due to the action of the iodoform. On the legs, the thighs, and the body the exanthema was like that of measles; on the arms and the buttocks it was characterized by a very diffuse scarlatinous redness. On the red ground of the eruption there was a great number of small milium vesicles which were detached and contained a lemon-colored liquid.

The patient suffered greatly; her face was red and tumefied, and there was profuse lachrymation, but no fever. The general condition rapidly became worse; the face grew pale and drawn; and in twenty-four hours two hundred and ten grains of albumin were found in the urine. Dyspnoea and weakness became progressive, and in twenty days after the onset of the symptoms death occurred. Some years before, says the writer, the patient had had a similar eruption, which had appeared after the employment of an iodoform dressing.

**Some Therapeutical Applications of Tannoform.**—A writer in the *Journal des praticiens* for September 12th states that E. Merck found that formaldehyde combined with tannin formed a product to which he gave the name of tannoform. This substance is endowed with remarkable therapeutic properties. Its astringent action certainly becomes developed in the intestinal tract, owing to its insolubility in the acid of the stomach. This fact indicates its employment in acute or chronic intestinal catarrh. Its antiseptic and astringent properties should lead to its trial as a topical antiseptic in wounds and atonic ulcers, in bromidrosis, in decubitus, in inflammation of mucous membranes other than the digestive mucous membrane (balanitis, erythrit, ozæna, etc.), and in the oozing eruptions in general. As an internal remedy, it possesses many advantages over tannin; its physiological properties scarcely differ from those of tannigen and tannalbin, but locally it is distinguished from these substances by special properties, and it exercises a remarkable topical action in many respects.

The drying and antiseptic qualities of this drug have been made use of in the treatment of operation wounds as a substitute for iodoform or for nosophene; also in old infected wounds and notably in atonic ulcers of the leg, against decubitus. In such cases, says the writer, it is one of the best topical applications, for it

has the great advantage of keeping the wound dry. It is useful also in ulcerating lupus of the nose after the fungosities have been scraped off, and it may be employed as a drying antiseptic on the uterine stump after myotomy by the extraperitoneal procedure. De Buck and De Moor have employed tannoform as an intestinal astringent and antiseptic in the diarrhoeas of infancy.

Tannoform has shown itself to be an excellent intestinal antiseptic and useful in constipation. Its action here is in every way comparable to that of tannigen and that of tannalbin; at present, however, it is impossible to say whether it is superior to these drugs, or to specify exactly its indications. It is especially to its local action that the writer desires to call attention. Its action is often so rapid as to require some prudence in its application. De Bück and De Moor state that they have not met with a single case of localized hyperidrosis which did not yield to applications of tannoform. In various eruptions in the oozing period the diseased surfaces rapidly dry up under the influence of this drug. As a dusting powder in the treatment of infected or non-infected wounds it may render great service. Over certain iodine compounds it has the advantage of being destitute of all odor, all irritating properties, and all toxicity. The following formulæ are recommended by De Bück and De Moor:

1. Tannoform.....	45 grains;
Zinc oxide.....	90 "
Vaseline.....	450 "
2. Tannoform.....	75 grains;
Talcum or starch.....	375 "

The amount of tannoform to be taken internally is from eight to fifteen grains a day, in four doses.

**Intestinal Indigestion.**—In the October number of *Mathews's Medical Quarterly* there is an article on this subject by Dr. J. N. Upshur, who devotes the first part to a detailed account of the definition, the varieties, the ætiology, and the pathology of this disease. In regard to the symptoms, he says, a serious difficulty is presented, as intestinal indigestion is complex, several fluids entering into the process.

The prominent symptoms depend upon the particular fluid deficient, or the way or avenue through which the faulty nervous stimulus may manifest itself. Therefore, a more rigid analysis is required, as well as a more careful and stricter process of exclusion.

It may be acute or chronic; the latter is the more common. The acute form may be brought about by imprudence in eating; the matter entering the intestine can not be physiologically disposed of, and pain, flatulence, borborygmi, fever, coated tongue, headache, and aching in the limbs rapidly develop and find a culmination in acute diarrhoea. An acute intestinal catarrh being the lesion, if this involves the common bile duct, interfering with the flow of bile into the intestine, the stools are clay-colored, slight jaundice exists, and the urine is loaded with lithates. Some of the symptoms are reflex, others are due to the absorption of sulphureted hydrogen into the system—thus the lassitude, aching in the limbs, and headache find an explanation. If the stomach participates, the symptoms are modified. These attacks are apt to recur at intervals. The intervals become shorter until a chronic intestinal indigestion is established. Food coming from the stomach is not properly prepared for absorption, decomposition readily takes place, and the prominent and significant symp-



tom is *pain* in the right hypochondrium or about the umbilicus, from one to three hours after eating. The pain is dull and gives a sensation of weight; it is not always fixed, and it is accompanied by tenderness on pressure. Tympany and borborygmus are present, and the individual experiences a sensation of fullness and distention. This is caused by the decomposition of the contents of the bowels. In acute indigestion the rapid formation of gas produces distention and spasm of the gut—acute colic. When the disease is chronic, this is not the case, but the sensation is one of uneasiness and dull, wearing pain. Constipation is commonly present, due to enervation of the intestinal walls and overdistention; the dejecta are too dry and sometimes covered with mucus from the development of chronic intestinal catarrh. Diarrhoea may alternate with the constipation, and particles of undigested food may pass off; the dark-green or black color of the stools indicating excess or perversion of bile; the slate color, its deficiency; the fatty matter, faulty action of the pancreas. The appetite is fitful and irregular, but not necessarily impaired. The patient awakes in the morning with a bad taste in the mouth, and the tongue is coated, relaxed, and swollen.

The nervous system is the first to suffer; disturbed function in the intestine, whereby the digestion and assimilation of fats are interfered with, impairs the nutrition of the nervous system, and results in depression of spirits, sleepiness, bad dreams, ringing in the ears, vertiginous sensations, pain in the head, confusion of thought, and loss of the power of application. Sometimes epileptoid attacks are traceable to intestinal indigestion; also sudden attacks of fainting and collapse, which are occasionally alarming. Melancholia sometimes exists. Cold hands and feet testify to a debilitated circulation; palpitation is present. Reflex irritation and impaired nutrition are responsible for heart complication. The urine is high-colored, of high specific gravity, and loaded with urates, and contains a large amount of sediment which is deposited on cooling. Sometimes albumin is found; errors in diet, like eating cheese or pastry, may cause it. Seminal emissions may occur. Faulty digestion, faulty sexual function, and consequent mental depression, reduce the subject to a condition of abject misery.

As the result of malassimilation, says Dr. Upshur, anæmia is an early symptom. Various skin affections, such as eczema, psoriasis, impetigo, etc., supervene to add to the distress of the patient. Consequent upon disturbed intestinal function is disturbance of the functions of the liver—lithæmia results with all its characteristic symptoms. Nutrition is still further impaired, and emaciation is pronounced, being specially noticeable in persons previously stout. Acute intestinal indigestion may terminate in a day or two and the patient be restored perfectly. Sometimes an obstinate diarrhoea is left behind. Chronic intestinal indigestion, if in children, is apt to persist until the diet is changed. In adults, if young, phthisis may have its inception here; in those more advanced, interference with so important a function may result more seriously, and the trouble may last for years. The influence of the intestinal disease upon the mind alters the whole character of the man. Everything seems out of joint; he becomes peevish, fretful, depressed, moody. It paves the way for some organic trouble, hepatic or renal, and the result of malnutrition closes the scene.

In the acute form, pain, flatulence, and diarrhoea

reveal the nature of the trouble. In the chronic form, the history of the case, the existence of the symptoms, digestive, mental, nervous, and cardiac, evidences of malnutrition, all these, with careful analysis of the symptoms pertaining to the liver, the pancreas, and the stomach, will enable us to reach a correct conclusion with little difficulty. It must be borne in mind, however, that the presence of fats in the stools, or a fatty diarrhoea, does not always indicate pancreatic disease; it has occurred in ulceration of the duodenum. The existence of glycosuria may be an aid to pointing out pancreatic disease.

If the disease is treated promptly and decisively, says the author, a cure may be effected, especially in the acute form. The chronic form is not so promising. Of supreme importance is implicit obedience on the part of the patient. Everything depends upon this and must be made subordinate to it. This being done, patience and perseverance may and will accomplish much. If the general health has become much impaired, the prognosis is more doubtful. Anæmia, debility, coexistent gastric dyspepsia, hypochondria, or a strumous diathesis in children, adds much to the gravity of the prognosis. If organic disease of the stomach, of the liver, of the pancreas, or of the heart exists the prognosis is very bad.

In the acute form, the first indication is to free the bowel from all irritant matter. A brisk mercurial purgative is preferable for this. The diet should be regulated, and pain relieved, if unbearable, at the beginning of the attack, by a hypodermic injection of morphine. If any intestinal catarrh exists, there is no remedy, says Dr. Upshur, superior to the phosphate of sodium in doses of thirty grains every two hours, given in half a teaspoonful of hot water. The tongue cleans promptly under its influence, and pain, soreness, and flatulence disappear. It should be continued for twenty-four or forty-eight hours. The diet should be simply milk or some suitable animal broth. In the chronic form the first indication is to put the patient upon a strict but nutritious diet, such a diet as will put the duodenum at rest as much as possible. In the beginning, an exclusive milk diet is best; if it does not suit the patient, it may be given skimmed, or if it still disagrees or is distasteful, the following preparation is palatable and beneficial in most cases: To a tumbler of sweet milk, add the white of an egg whipped up to a light froth and a wineglassful of limewater. Such farinaceous food as barley gruel or oatmeal may be combined with it. Animal broths may be allowed or some of the prepared meat essences. They stimulate the appetite and the secretion of the glands. When the demand comes for an improved diet, boiled fish, oysters, sweetbread, the white flesh of fowl once a day, and soft boiled eggs, one or two a day, may be allowed. Bread one day old, *sweet and light*, macaroni boiled in milk, and rice may also be allowed. Coffee is contraindicated, and tea should only be allowed when largely diluted with milk; cocoa (Phillips's digestible, which contains pancreatin) is a very pleasant drink. Butter is to be given in moderation. Wines are contraindicated, except under special conditions, to be determined for each individual. Mineral waters do good, *by change of air and scene*, and in those cases where little water is drunk, as a means of correcting constipation. Cheese, crabs, lobster, richly dressed meats, too much fat, pastry, and vegetables are to be avoided. The patient should be earnestly enjoined as regards the thorough mastication and in-



salivation of food, the harmfulness of haste in eating, and the necessity of a sufficient rest before and after eating. Tobacco chewing and smoking should be forbidden as impairing the character of the saliva and interfering with pancreatic secretion. Careful examination of the mouth should be made, and if the teeth are imperfect, artificial ones should be substituted for them. All causes which have combined to bring about the attack should be removed. A change to a cooler climate is advisable; early hours of sleep and regularity as to the time of meals and the interval between them should be earnestly advised. In overworked professional men, rest from all mental and physical effort should be insisted upon; massage and electricity are also very useful. The overtaxed child should be taken from school, and a careful effort made for his physical up-building. Sea bathing, properly regulated, is beneficial. If the condition of the patient is so extreme as to demand it, an artificially digested food may be given, such as peptonized milk.

Finally, continues Dr. Upshur, as to the administration of drugs, sulphuric ether has been recommended, as it possesses the power of stimulating the pancreas, given about an hour before meals. Good results follow the use of pancreatic extract and soda. Gastric digestion should also be cared for, as the more perfectly this function is performed the better the quality of the substances which go to the duodenum for the completion of digestion. When the liver is at fault, the bichloride of mercury in compound tincture of cinchona is very useful. This organ should also be stimulated to improved action by the administration of benzoate of sodium or ammonium, salicylate of sodium, etc. Atony of the intestinal walls, or deficient peristalsis, should be treated by the administration of strychnine given in full doses. This drug can not be too highly recommended for its power for good. Quinine in tonic doses is also available, and may be given in combination with it. If flatulence and abdominal distention are present, bismuth subnitrate is indicated in combination with benzosol or salol. In a case which recently came under the author's care he found great benefit from large doses (thirty grains) of the hyposulphite of sodium. Constipation is to be relieved by enemata or the administration of one of the bitter waters. He has found the Rubinat most satisfactory. Fluid extract of cascara is also useful, acting as it does as a tonic to the intestine and improving the muscular tone. Fowler's solution and tincture of nux vomica will be found useful; chloride of gold and sodium is a most valuable remedy; the only objection to it, which may be combated, is that it constipates. This property makes it useful in the diarrhoeal form. As soon as the patient's condition will admit of it, chalybeate tonics should be administered, backed up by such other remedies as will improve assimilation and nutrition.

**The Spontaneous Cure of a Malignant Tumor of the Bladder.**—Dr. K. Schuehardt (*Deutsche medizinische Wochenschrift*, 1896, No. 9; *Centralblatt für innere Medizin*, September 26, 1896) relates the case of a man, fifty-seven years old, who for four years had suffered from urinary disturbance. There was impeded urination with severe bearing down, at first without pain, but subsequently the urine was bloody for days together, and for six weeks it had been cloudy and offensive. There was a high degree of emaciation, and finally there was cough with expectoration. The patient

had a cachectic appearance, but, although the expectoration was abundant, no tubercle bacilli were found in the sputa.

Above the symphysis pubis there was a large, hard tumor over which the skin was only slightly movable. On examination with a catheter, the bladder was found decidedly contracted. The urine was loaded with pus and ammoniacal. On laparotomy, the right rectus muscle, for a hand's breadth above the symphysis, was found to be pervaded with tumor nodes showing a medullary, grayish-white cut surface, and it was adherent to the skin. The bladder had been converted into a firm lumpy tumor. On account of the numerous adhesions, further attempts at removing the neoplasm were abandoned, and the abdominal incision could not be closed entirely. The patient was very weak after the operation and had a good deal of pain, the expectoration was very abundant, and the temperature was elevated. At first the wound made good progress; then copious suppuration set in and the temperature fell and remained normal.

After nearly four weeks of almost monstrously abundant [*ungeheuer starken*] suppuration, in the course of which time no expulsion of pieces of tissue was observed, the flow of pus suddenly stopped almost entirely, and the general condition rapidly showed notable improvement. The urine was perfectly clear and free from albumin, although there had been no local treatment of the bladder whatever, and bimanual examination now showed that there was no noteworthy enlargement of the organ, but it was still somewhat indurated. After the healing of two fistulæ of the abdominal wall, caused by silk ligatures, had been accomplished by means of appropriate treatment, six months after the operation, the patient was dismissed perfectly cured. Three months and a half later his condition remained the same.

The author of the *Centralblatt's* summary, Dr. Reichmann, of Elberfeld, remarks that, in view of the extraordinary termination of this case, it is much to be regretted that there was no bacteriological examination of the pus or any microscopical investigation to establish the real character of the growth.

**Strontium Bromide in Epilepsy.**—In the *Lancet* for September 26th Mr. Anthony Roche calls attention to this treatment, which, he says, has afforded some relief in reducing, if not curing, the manifestations of the conditions in epilepsy. The number of cases is limited, and no general deduction can be drawn from them, but the author thinks they are sufficiently encouraging to induce others to give this bromide a trial. He states that he has used it alone or in combination with other bromides in four cases. The patients were not cured, but they obtained much relief. In all of the cases other bromides had formerly been employed and the combination of the strontium seemed to be more beneficial. It has long been noticed, he says, that a combination of bromides acts more favorably than any one of them alone. It should be impressed upon the patient that he must take the medicine for a long period, whether it has at first a beneficial effect or not. Mr. Roche thinks the bromide of strontium well entitled to further trial.

The treatment adopted by him, besides meeting any general indications, obtaining the best hygienic surroundings possible, and advising a strictly vegetable diet with milk, is to give twenty grains of the bromide of strontium with from five to ten grains of the bromide

of ammonium or sodium night and morning, largely diluted with water. The strontium is increased to one drachm twice a day rapidly if the smaller doses do not control the attacks, and if the patient does not complain of it. The majority of the patients, he says, took the strontium without any depression, but generally with the production of the acne rash on the face. Liquor arsenicalis added to the mixture controlled the rash and increased the appetite. This course in all the cases materially lessened the number of the attacks, and in eight of the cases there has been so far no return of them; that is after an interval of sixteen, twelve, eleven, nine, eight, eight and a half, five and a half, and four months respectively. As to the ultimate results of these cases, says Mr. Roche, it is impossible to judge, but the present improvement is so far encouraging.

**The New York Academy of Medicine.**—The programme for the last general meeting, on Thursday evening, October 15th, included the following titles: The Effects of Extrinsic Poisons on the Eye, by Dr. J. H. Claiborne; Infectious Diseases of the Eye, by Dr. C. J. Kipp; and The Visual Disturbances due to Nervous Diseases, by Dr. Ward A. Holden.

At the next meeting of the Section in General Medicine, on Tuesday evening, October 20th, papers are to be read as follows: Experience with the Treatment of Enteric Fever by Cold Tub Baths, by Dr. W. Gilman Thompson; and The Treatment of Enteric Fever by other Methods, by Dr. Morris Manges, who also will give a demonstration of the phenocendroscope.

At the next meeting of the Section in Obstetrics and Gynecology, on Thursday evening, October 22d, Dr. Bernard Gordon will read a paper on Gonorrhoea in Women, and Dr. John O. Polak will present one entitled Bladder Tuberculosis Successfully Treated by Keeley's Method of Direct Medication.

At the recent meeting of the Section in Laryngology, on Wednesday evening, October 28th, Dr. Thomas R. French will read a paper on Photography of the Larynx, and give a lantern exhibition and a demonstration of apparatus.

At the next meeting of the Section in Neurology, on Friday evening, October 30th, Dr. Ira Van Gieson will read a paper on The Relation of Toxic Agents in the Production of Nervous and Mental Disease.

**Proposed Medical Legislation in Vermont.**—The following is the text of a bill to create a State board of medical examiners in Vermont to which we briefly referred last week:

**SECTION 1.** The governor, with the advice and consent of the senate, shall appoint seven persons, residents in this State, who shall be graduates of a legally chartered medical college or university having the power to confer degrees in medicine, who shall constitute a board of registration in medicine. Such persons shall be appointed and hold office for terms of one, two, three, four, five, six, and seven years respectively, beginning with the first day of January, A. D. 1897, and until their respective successors are appointed, and thereafter the governor shall appoint, before the first day of January in each year, one person qualified as aforesaid, to hold office for seven years from the first day of January next ensuing. No member of said board shall belong to the faculty of any medical college or university. Vacancies in said board shall be filled in accordance with the provisions of this act for the establishment of the original board, and the person appointed to fill a vacancy shall

hold office during the unexpired term of the member whose place he fills. Any member of said board may be removed from office for cause by the governor. Said board shall consist of three allopathic, two homœopathic, and two eclectic practitioners.

**SEC. 2.** The members of said board shall meet on the second Tuesday of January next, at such time and place as they may determine, and shall immediately proceed to organize by electing a chairman and secretary who shall hold their respective offices for the term of one year. The secretary shall give to the State treasurer a bond in the penal sum of one thousand dollars, with sufficient sureties to be approved by the State auditor, for the faithful discharge of the duties of his office. The said board shall hold three regular meetings in each year, one on the second Tuesday of March, one on the second Tuesday of July, and one on the second Tuesday of December, and such additional meetings at such other times and places as it may determine. Five concurrent votes shall be necessary to effect a choice in the election of officers and in deciding such other questions as may come before said board.

**SEC. 3.** Any person twenty-one years of age and of good moral character, who is a graduate of a legally chartered medical college or university having power to confer degrees in medicine and said medical college or university being recognized, as determined by said board, shall, upon payment of a fee of ten dollars, be entitled to examination, and, if found qualified by five or more members of said board, shall be registered as a qualified physician, and shall receive a certificate thereof signed by the chairman and secretary. Any person refused registration may be re-examined at any regular meeting of said board, within one year of the time of such refusal, without additional fee. And thereafter he may be examined as often as he may desire, upon payment of the fee of ten dollars for each examination. Said board, after a hearing, may, by unanimous vote, revoke the certificate of any person registered by them, who has been convicted before a proper court of crime committed in the course of professional business.

**SEC. 4.** All fees received by the board under this act shall be paid by the secretary thereof into the State treasury once in each month. The compensation, incidental and traveling expenses of the board shall be paid from the State treasury on order of the State auditor. The compensation of members of the board shall be five dollars each for each day actually spent in the discharge of their duties, and three cents a mile each way for necessary traveling expenses in attending the meetings of the board, but in no case shall any more be paid than was actually expended. Such compensation and the incidental and traveling expenses shall be approved by the board and sent to the State auditor, who shall certify to the State treasurer the amounts due as in case of other bills and accounts that are approved by him under the provisions of law.

**SEC. 5.** The board shall keep a record of the names of all persons registered hereunder, and a record of all moneys received and disbursed by said board, and said records or duplicates thereof shall always be open to inspection in the office of the secretary of state. Said board shall annually report to the governor, on or before the first day of July in each year, the condition of medicine and surgery in this State, which report shall contain a full and complete record of all its official acts during the year, and shall also contain a statement of the receipts and disbursements of the board.



Sec. 6. It shall be the duty of the board to investigate all complaints of disregard, non-compliance, or violation of the provisions of this act, and to bring all such cases to the notice of the proper prosecuting officers.

Sec. 7. The examinations shall be, in whole or in part, in writing, and shall be of a practical character. They shall embrace the general subjects of anatomy, physiology, chemistry, pathology, practice of medicine, surgery, and obstetrics, and such other branches as the board may deem necessary, and shall be sufficiently strict to test the qualifications of the candidate as a practitioner of medicine.

Sec. 8. Any person who shall practise medicine or surgery under a false or assumed name, or a name other than that under which he is registered, or who shall personate another practitioner of a like or different name, or who, not being registered as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this State, or appends to his name the letters "M. D.," or uses the title of doctor, meaning thereby a doctor of medicine, shall be punished by a fine of not less than one hundred nor more than five hundred dollars for each offense, or by imprisonment in jail for three months, or both.

Sec. 9. This act shall not apply to persons legally licensed or exempt under the provisions of former acts, or to commissioned officers of the United States army, navy, or marine-hospital service, or to a physician or surgeon who is called from another State to treat a particular case, and who does not otherwise practise in this State, or to prohibit gratuitous services.

Sec. 10. For the purposes of the appointment of this board, this act shall take effect upon its passage, and shall take full effect on the first day of January in the year eighteen hundred and ninety-seven.

Sec. 11. All acts or parts of acts inconsistent herewith are hereby repealed.

**The Treatment of Jaundice with the Root-bark of *Moringa Pterygosperma*.**—In the *Indian Lancet* for September 1st Mr. L. B. Dhargalkar, of Bombay, calls attention to a plant which he has used in the treatment of this disease. It is commonly known as Indian horse-radish or the drumstick tree. The root, the gum, the leaves, the flowers, and the fruit are all useful in medicine. The root has a strong, pungent odor and is said to have the flavor of horse-radish. When distilled with water, it yields an essential oil which is very pungent to the taste. The bark is rubefacient and is used externally by the poorer classes as a counter-irritant in chronic rheumatism. Some authors state that it is supposed to act as an emmenagogue and is used to produce abortion. The stimulant and pungent properties of the root-bark have been described by observers, but Mr. Dhargalkar thinks that no one has as yet mentioned its usefulness in the treatment of jaundice. He himself accidentally found that, if administered in proper doses, it was useful in that disease, and he has made several experiments with it.

The author relates the histories of eight cases in which he obtained satisfactory results with the tincture of moringa, the action of which was very rapid.

In regard to the toxic effects of the drug, the author states that he has had no opportunity to observe them, as it did not produce any unfavorable symptoms in any of the patients treated by him. In order to try its effects on the healthy system, he took on an empty stomach a drachm of the tincture in an ounce of water. It

tasted, he says, something like an infusion of bitter almonds and produced a sensation of warmth at the pit of the stomach for two or three minutes, but it did not produce any other effect.

The physiological action of the drug is, he says, still unknown to him, but he feels justified in calling the attention of the medical profession to its action in jaundice, and hopes that sufficient interest will be taken to promote investigations as to the true value of the plant in the treatment of this disease.

**Traumatol in Surgery.**—In the *Journal des praticiens* for September 26th M. L. Floersheim calls attention to a new substance which is likely to enter into ordinary surgical practice. It is a substitute for iodoform, the antiseptic qualities of which it possesses even to a greater degree, and has the advantage of being less toxic and being exempt from the disagreeable odor which is so unpleasant to patients. The conditions in which it may be employed are the general indications for all antiseptics. Its preparations are as numerous as those of iodoform and its employment is as simple. It may easily be incorporated in vaseline in the following manner:

Vaseline .....	75 grains;
Traumatol.....	15 "

This ointment may be employed in cutaneous affections or in the surgery of the eye. Gauze may be impregnated with traumatol as easily as with salol, iodoform, and boric acid. Traumatol pencils have been successfully used by certain surgeons in fistulous tracts and in endometritis; their preparation is as follows:

Traumatol .....	150 grains;
Pulverized gum.....	8 "

This is to be mixed with a sufficient quantity of water and glycerin. Traumatol may be mixed also with oil and collodion.

This new antiseptic, says M. Floersheim, is endowed with an active microbicidal power; it is inodorous; it does not give rise to erythema or to pruritus; it produces a perfect occlusion and hastens cicatrization; and its employment so far has given very encouraging results.

**The Employment of Calcium Carbide in Cancer of the Uterus.**—The *Revue internationale de médecine et de chirurgie* for September 25th contains a Paris thesis on this subject by M. Livet. According to the author, in the majority of cases the treatment of cancer of the uterus should be limited to palliation and the diminution of the intensity of the symptoms, as it is very frequently too late to attempt a radical cure; in fact, a radical cure can not be effected unless the disease is limited, that is to say, unless it is amenable to a partial operation according to one of the many procedures advocated. In the purely symptomatic treatment many remedies have been successively employed, but with fruitless results. Total hysterectomy has been advocated, but, although this operation radically suppresses the hæmorrhagic centre, relapses are the rule, and the pain is more violent after the operation than before. Partial success has been obtained by Pozzi's method, which consists in curetting followed by cauterization with the red-hot iron.

There are many methods of treatment for combating the fetid odor in these cases, but they are useless; the medicaments for combating pain are efficacious in the beginning, but their action rapidly decreases and finally almost entirely ceases. In view of the insufficiency of therapeutic measures, says the author, M. Guinard con-



ceived the idea of applying, in the treatment of uterine cancer, the coagulant action that acetylene gas exercises on the blood. He obtained the gas in its nascent state by putting calcium carbide into water, where it formed a deposit which proved to be lime. In accordance with M. Guinard's idea, M. Livet proposes using calcium carbide, not only in the treatment of uterine cancer, but also in that of other affections accompanied by rebellious hemorrhages, pain, and fetid odors, such as certain forms of fibroma and metritis. He reports eight cases, four of which demonstrate that the treatment with calcium carbide is always followed by an amelioration, whether in cancer of the breast, metritis, or epithelioma of the uterus.

According to the author, the application of this remedy offers no practical difficulty. In cases of cancer of the neck of the uterus, the vulva and the vagina should first be thoroughly washed and disinfected, and then pieces of calcium carbide should be placed in the inequalities of the tumor. If a calcium-carbide crayon is to be introduced into the cervical cavity, it must be done very rapidly, for when it comes in contact with the moist mucous membrane it produces a bubbling and nothing more is seen of it. In cancer of the breast the cavities are simply filled with pieces of calcium carbide.

As soon as the carbide comes in contact with the diseased parts acetylene is set free and escapes with a characteristic odor. In order to confine the acetylene, an ordinary dressing is used on the breast and tamponing is employed in the vagina. The action of calcium carbide is very rapid; the patient feels at once a burning sensation which lasts for an hour or two, and at the end of that time the pain, the discharge, and the fetid odor disappear. The clot which is formed by the coagulant action of the acetylene presents a temporary barrier, which is sometimes definitive, to the hemorrhage, and when the fetid discharge is dried up the nauseous odor disappears. When the tampon of iodoform gauze which confines the acetylene is removed the vegetations will be seen to be diminished in volume and covered with a grayish eschar which is easily detached with a blunt curette. It is not necessary to renew the applications of the carbide oftener than every four or five days, unless the hemorrhage should reappear on the day following the first application. If it is necessary to use the nascent lime to hasten the destruction of the neoplasm, the applications of the carbide may be more frequent. In all cases, the treatment, being purely symptomatic, should be continued until the fatal termination, which will be more or less retarded.

According to M. Livet, the symptoms caused by this treatment are few; in one case he observed diarrhoea and in another burns on the vaginal wall. Unfortunately, he says, the treatment is painful, and the burning sensation is very intense and occasionally persists for a long time.

**The Treatment of Painful Cystitis in Women by Vesical Curetting.**—The *Gazette hebdomadaire de médecine et de chirurgie* for September 24th publishes an article on this subject by M. G. Camero. The lesions of cystitis, he says, are in reality more frequently localized around the neck of the uterus and of the trigonum, and for quite a long time they are rather superficial. It is only in extreme cases that the condition of interstitial cystitis, which seems to be beyond therapeutical resources, becomes established. It has been observed that for a long time, even if there is intense pain, the mu-

cous membrane is not deeply involved and the rest of the bladder is scarcely diseased. In such cases, says M. Camero, amelioration is very distinct after vesical curetting. The operation is very simple and is preceded by thorough lavage of the bladder. For this a solution of boric acid is used to which one per cent. of a solution of corrosive sublimate of the strength of 1 to 1,000 without alcohol is added.

According to M. Guyon, says the author, this intervention does not completely cure the cystitis, but it renders the disease more amenable to other methods of topical treatment which before could not be tolerated.

M. Camero's conclusions in regard to this disease and its treatment are summed up as follows: 1. Painful cystitis is particularly frequent in women. 2. The measures to be resorted to should consist in the treatment of the uterus and its annexa and general treatment. 3. The local treatment of cystitis, although easy in light cases, becomes insufficient in pronounced cases. 4. Surgical treatment becomes necessary in cases in which the pain is intense. 5. Cystotomy, particularly colpocystotomy, should be reserved for very serious cases. 6. Very often recovery or a step toward recovery by means of local topical treatment may be obtained by curetting of the bladder through the urethra. 7. This operation is simple and easy; it does not require any complementary operation, and it gives excellent results.

**Poisonous Honey.**—In a paper read before the recent meeting of the American Pharmaceutical Association, says a writer in the October number of the *Pharmaceutical Review*, Mr. Lyman F. Kebler discussed poisonous honey. According to the author this honey has been known from ancient times and has been accounted for on very various hypotheses. Asia Minor has been the principal place of origin in the cases mentioned in literature, but the United States has not escaped. During the past year New Jersey has furnished eight cases. Pennsylvania and South Carolina have also contributed. The symptoms agree in the main features. Dimness of vision, vertigo, delirium, pain in the stomach and intestines, purging and vomiting, retching, and general symptoms of collapse are followed in the severest cases by death.

The poisonous article is sometimes marked by a dark, reddish color and a somewhat repulsive odor; at other times neither in appearance nor in odor would it awaken suspicion. The examination of various poisonous samples has revealed the presence of toxic principles. In South Carolina, honey that proved fatal in three cases out of twenty was found to be highly impregnated with gelsemine.

Honey used by persons poisoned not long since at Princeton, N. J., was examined by Mr. Kebler, who failed to find either alkaloids or inorganic poisons. Tests for andromedotoxin yielded uncertain results. It seems to be rightly suspected, since it is widely distributed through the family of the *Ericaceae* and is present in those plants that have been traditionally condemned by bee-keepers. *Kalmia latifolia*, *Andromeda* species, *Rhododendron* species, and various azaleas contain this principle.

Although it is not positively established by the chemical examination, Mr. Kebler regards the flowers of the *Ericaceae* as the probable source of trouble, and bee-keepers are advised to avoid regions where these flowers abound.

## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

By WILLIAM OSLER, M.D.,

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LECTURE VI.—PSEUDO-ANGINA PECTORIS (*continued*); THEORIES OF ANGINA.

II. TOXIC ANGINA.—The second division of functional or pseudo-angina embraces cases due to the abuse of tea, coffee, and tobacco, substances harmless in themselves, but which if taken in excess may disturb the action of the heart. My experience with this form is extremely limited. In tea or coffee drinkers I have never seen attacks of cardiac pain which could be called angina; though paroxysms of severe palpitation, with distress about the heart and gasping respiration, are not uncommon in nervous women much addicted to tea. Tobacco, as a rule, produces only slight and transient disturbance of the heart's action, but which may culminate in attacks of angina. When one considers how universal is the custom, the infrequency of severe heart symptoms in users of tobacco is remarkable. I pass months without seeing, in hospital or consultation work, an instance in which symptoms of any kind are due to it.

You all know, some of you have experienced, the acute toxic symptoms in beginning to use tobacco. The effects of the habitual use are very varied. To the large majority of persons the habit, in moderation, is harmless, to many it is beneficial. Among the injurious features those relating to the heart are perhaps the most important, certainly they are the most common. There are three groups of cases of so-called *tobacco heart*:

1. *The Irritable Heart of Smokers*.—Palpitation, irregularity, and rapid heart action are very common symptoms, particularly in young boys. They are often combined with dyspepsia; pain is not a special feature. There may be slight enlargement of the heart. It is a condition readily relieved by stopping the use of the weed. Disturbance of rhythm is the most constant effect of tobacco, and intermittence is more common than either slowing or hastening of the heart's action. Weakening of the vagus control is the more frequent, though in my own case the slightest excess in the use of tobacco causes intermission with slowing, not increase of the pulse-rate. An opposite effect—great rapidity with feebleness of impulse—is more common, and may develop suddenly in an habitual smoker.

2. *Heart Pain*.—Sharp shooting pains about the heart are not very uncommon in persons who smoke or chew too much. They may occur alone without disturbance of the cardiac rhythm or without the intensity

and associated features of an attack of tobacco angina. The following is a good illustrative case:

I. B., aged twenty-nine years, seen March 24, 1896, complaining of pain in the region of the heart just below the nipple. The first attack was four or five years ago, and it has recurred at intervals ever since. Shortly after the onset his physician suggested that it might be due to tobacco; and when he gave up smoking the attacks disappeared altogether. Since he resumed the habit they have recurred, and for the past year he has had them more frequently. The attacks occur at night, just after he has fallen asleep. He is awakened with a severe pain in the region of the heart, which almost takes his breath away, and makes him cry out at once. It rarely lasts more than a minute or two. The heart's action is not increased. He never has had any sweating, and does not change in color, nor do his hands and feet become cold. He has never had any pain down the arm. It is always of the same character, sharp and stabbing, just below the nipple, and is intense enough to cause him to cry out. He has had as many as four or six attacks in the twenty-four hours. In the daytime the pain is not so severe, and the spells are more transient. He has never had an attack following exertion, and neither emotion nor errors in diet have any influence upon them.

He was a member of a very nervous family. He was himself a healthy, vigorous man. He had smoked from his boyhood three or four strong cigars, and when traveling, five or six cigars a day. He felt himself that the tobacco was responsible for the pain. He was a healthy-looking man, a little pale. The pulse was 76, regular, and without increased tension. The apex-beat was in normal situation; the heart sounds were everywhere clear. The second aortic was perhaps a little accentuated. There was no pain on pressure, and no hyperæsthesia.

He was advised to stop smoking altogether.

3. *Tobacco Angina*.—I have seen but two cases in which severe paroxysms of cardiac pain occurred in habitual smokers.

Dr. —, of —, aged thirty-five years, consulted me April 13, 1891, complaining of severe pains in his chest and of numbness in the left arm. The patient has a very gouty history on both sides. He has been a hard-working practitioner, has been a moderate drinker, and has used tobacco to excess, both smoking and chewing. Four years ago, when he had been smoking very heavily, he had an attack of pain about the heart and down the arm, for which he consulted Dr. Pepper. He had very little trouble again until six or eight months ago, when the attacks recurred. He then consulted Dr. DaCosta, who said that he was gouty and without organic disease of the heart. Lately the attacks have been very severe, chiefly under the left margin of the sternum and reaching down the arm, which becomes numb and tingles. He has never had an attack in which there was a sense of impending dissolution. The patient was a healthy-looking man, the pulse was 78, the tension a little plus, but there was no sclerosis of the arteries. The examination was negative, with the exception that the aortic second sound was perhaps a little sharper and clearer than normal. He was told that he had no heart disease, and he was urged to live a temperate life, to give up tobacco, and ordered ten grains of iodide of

\* Delivered to the Post-graduate Class, Johns Hopkins Hospital.



potassium three times a day. After seeing him the first day I dictated the following note:

"In this case the gouty history and the accentuated second sound are perhaps suggestive of true angina. On the other hand he has been a very heavy smoker, is evidently nervous and worried about his condition, both of which factors must be taken into consideration."

I have seen this patient at intervals during the past five years. He lays very great stress upon tobacco as the cause of the attacks, and any indulgence is apt to be followed by severe pain.

On February 17, 1894, in a letter he laid stress again upon the part played by tobacco; in a letter received recently he gives a very satisfactory account of himself, though he still smokes, and still has attacks. There is a feature in the attacks in this case upon which Huchard lays a great deal of stress in tobacco angina—namely, the occurrence of certain nocturnal spells almost like syncope. This patient states in the recent letter that "the strangest symptom of all is that just as I lose myself, and am about to drop to sleep, and often just after losing consciousness, I choke, sit up quickly, and feel for the moment as if 'the game was up.' There is no pain, no excitement of the heart, and yet this often occurs after having a choking fullness and distention in my throat, as if I was trying to force a great volume through a small space." He adds, "Sudden inhalations of tobacco smoke still give me pain about the heart, lasting for several minutes."

T. W., aged forty-five years, seen with Dr. Goldsborough June 12, 1895.

The patient was a very vigorous, healthy-looking man, and has enjoyed uniformly good health. In November, 1894, he had influenza and was wretched for two months after it. He had been a heavy smoker since his fourteenth year. Some years ago he gave up the habit for twelve months, as he had attacks in bed in which he felt as though the heart had stopped and he would have to jump out of bed and gasp for breath. He got well and has smoked heavily ever since.

On the 6th of January he had a sudden, severe paroxysm, to which he attributes his present nervous condition. He had been smoking on an average twelve strong cigars a day. The attack began with a peculiar feeling in the chest, not exactly pain, but great distress. He turned pale, belched gas constantly, perspired, was cold, could not lie down, and felt as though he was going to die. He had no agonizing pain, but he felt a sense of terrible oppression, and had numbness in both hands and wrists. The heart's action during this attack was scarcely perceptible, the pulse very feeble and fluttering. It lasted altogether two or three hours, and alarmed him very much. For several days afterward he felt prostrated and weak, and for a month he had a sort of faint feeling, particularly after eating. These faint attacks have distressed him very much. They would come on at intervals and he would turn pale and sweat profusely. He never has actually fainted in them, but one day in the barber's chair he very nearly lost consciousness. They recurred for about two months after his severe attack. He has been very nervous and uneasy about himself, and has been greatly worried. He has stopped tobacco since January 6th.

The patient was a robust-looking man of good color. There was no arteriosclerosis. The apex-beat was within the nipple line, visible, readily felt, of normal intensity. There was no increase in the cardiac dullness. The heart sounds were clear, and there was no accentuation of aortic second. There was no enlargement of either liver or spleen.

Up to April 17, 1896, when last heard from, this patient had had no return of the attacks, and had been quite well.

As my experience of this form has been so limited, I will read you Huchard's statements as to the chief characters of tobacco angina:

1. "Angina pectoris due to tobacco assumes often the vasomotor type (extreme pallor of the face with vertigo, contraction of the pulse, tendency to syncope, præcordial anxiety with or without pain, chilling of the extremities, cold sweats).

2. "The attack of angina is often associated with other manifestations of nicotine poisoning: vertigo, ringing in the ears, dysphagia, headache, a sense of suffocation and dyspnea (nicotine asthma), sensations of general weakness, of cerebral confusion, of spinal hyperæsthesia, troubles of vision, etc. These symptoms may be dissociated from the paroxysms and observed separately.

3. "Those suffering from tobacco angina show, almost always, apart from or during the course of their attacks, disturbances in the heart's function: slowing with enfeeblement of the heart's beat, tachycardia or bradycardia, intermissions, arrhythmia, palpitation, tendency toward lipothymia or syncope, attacks of palpitation with extreme irregularity of the heart (*folie cardiaque, delirium cordis*).

4. "The attacks of angina are often very painful and complete in their intensity and in the radiation of the pains. But it is in angina from tobacco that one sees particularly the imperfect and abortive forms, consisting of dyspnea with slight præcordial anxiety, or simply of a little sense of uneasiness behind the sternum, with the sensation of stopping of the heart and the fear of impending death.

5. "Angina from tobacco shows generally spontaneous paroxysms; they may also be produced by exercise or exertion. It has then the clinical characters of angina from coronary artery disease.

6. "The paroxysms of *functional* tobacco angina due to spasmodic contractions of the coronaries disappear rapidly after the complete stopping of tobacco, a clinical feature common to almost all the symptoms of tobacco poisoning without lesions.

7. "This is not true of the paroxysms of *organic* tobacco angina due to organic contraction of the coronaries (through nicotine arteriosclerosis). This form is more resistant; it disappears but slowly, or may be permanent; it is worthy of treatment with iodide of potassium.

8. "There exists another form of stenocardia, the



most benign of all; it is due remotely but not immediately to nicotine; it follows dyspepsia produced by the abuse of tobacco; it is cured by the removal of tobacco and the disappearance of the dyspepsia."

It would be impossible to discuss, even briefly, all of the theories which, from time to time, have been offered in explanation of this remarkable group of symptoms. Huchard has tabulated sixty-one opinions under six main theories! Under these circumstances it will be wise to start out with the statement of a generally accepted fact—viz., that in an immense proportion of all cases *angina pectoris vera* is associated with disease of the coronary arteries and of the myocardium. This, you will recall, was Jenner's original suggestion, which he enounced in the letter I read to you in Lecture I. Very shortly after the appearance of Heberden's paper the first reports of coronary-artery disease in angina were made by Fothergill—the great Fothergill, whose friendship with Rush and whose interest in the medical affairs of the American colonies endeared his name to the profession on this side of the Atlantic. In the first case which he reports there is no note upon the coronary arteries, but "on the outward muscular part (of the heart) near the apex was a small white spot as big as a sixpence, resembling a cicatrix," evidently a patch of fibroid myocarditis. In another case (which seems really to have been one of *angina sine dolore*) the patient, who had a difficulty or incapacity to walk up a moderate ascent, died in a sudden transport of anger. John Hunter, who made the dissection, found "the two coronary arteries, from their origin to many of their ramifications upon the heart, were become one piece of bone."\* The older reports, which corroborated the opinion of Jenner, are to be found in Parry's monograph; while the full statistics on the question have been collected with great pains by Huchard. In a supplementary chapter to his work you will find a summary of 145 autopsies in cases of angina, gathered from the literature. In 17 cases there was mention only of a lesion of the coronaries without further specification; of 128 there were 68 with lesions of both coronary arteries, 37 of the left vessel, 15 of the right, and in 12 the seat of the lesion was not stated. In the 128 cases obliteration or stenosis of the vessels had occurred, and of these in 121 there was atheromatous narrowing or thrombosis, in 5 embolism, and in 2 compression. Fatal cases are on record in which the coronary arteries have been found normal; most of these are instances of adherent pericardium or valvular disease. There are also fatal cases of tobacco and post-febrile angina in which the anatomical condition is stated to have been negative. Nothing is easier than to overlook myocardial changes, particularly in the older methods of examination, and a heart may present extensive fibroid disease with obliteration of arteries, which to the untrained eye looks

healthy, or which may not show any coarse lesions of the aorta, or of the main branches of the coronary vessels. Or again, with Krehl's method of serial section a heart apparently normal may show extensive myocarditis, with changes in the smaller arteries. Spasm of the coronary arteries has been invoked to explain the sudden death in these cases, but it is much more likely that changes of a serious nature were overlooked (as from personal experience I know they often are) in the ordinary methods of examination. Ischemia, a condition in which the heart muscle is imperfectly supplied with blood, is the main factor in all coronary lesions, whether narrowing of the orifices of the arteries, atheroma of their walls, or thrombosis or embolism of their channels.

In seeking to explain the relation of the arterial and myocardial changes to the symptoms of angina we pass at once into the region of speculation. On turning to the therapeutical indexes and finding a list of twenty or more drugs recommended in a given disease you may be quite safe in concluding that our knowledge of the treatment of the affection is, to say the least, imperfect; and so, when you read the tabular list of the theories of angina, covering nearly four pages of Huchard's *Traité*, you may feel assured that the last word has not yet been said upon the subject.

The view which is based most directly on the coronary-artery disease is one which, as I shall tell you, dates really from the early part of the century, and finds its explanation in the remarkable phenomenon known as *intermittent claudication*. Bouley,\* Sr., the celebrated French veterinarian, described an affection in the horse, in which, after being driven for fifteen or twenty minutes, the animal stops, the hind legs get stiff, and soon it is unable to stir. It may fall down, and apparently be in great suffering. In from half an hour to an hour it will recover and will go on comfortably for another fifteen minutes, and then an attack recurs. In such cases, post mortem, the artery of the affected limb has been found blocked with a clot, or, when both hind legs have been involved, the abdominal aorta has contained a thrombus.

Charcot, while an interne in the service of Rayer, described in man a condition corresponding to this intermittent claudication in the horse. He says† that one day a patient in the service told him that he was not able to walk for more than a quarter of an hour without being taken with cramps in the legs. After resting a while he would get better, and was able to resume his walking, and then a crisis recurred. At the autopsy he found a ball encysted in the neighborhood of the iliac artery, and a traumatic aneurysm which had obliterated the artery in its lower part. The circulation was carried on by collateral channels, which

\* *Medical Observations and Inquiries*, vol. v, 1774.

\* *Nouveau dictionnaire pratique de médecine, de chirurgie et d'hygiène vétérinaires*. Tome deuxième, pp. 540. Bouley and Renault, 1856.

† *Leçons du mardi*. Tome i, p. 45.

were ample to maintain the nutrition while the patient was quiet, and for a short period during exertion, but after a time, when the limbs were fatigued by the movements, the quantity of blood which reached them was insufficient, causing a relative ischemia, with tingling, cramps, and impossibility of walking. He refers to the fact that the condition is often preliminary to gangrene, and narrates a case in which one of his patients with the affection had his leg amputated for gangrene.\*

The credit of pointing out the analogy between this condition and angina pectoris, which is ascribed usually to Potain (1870), but which is maintained by Weber † to have been clearly shown by Brodie, in 1816, belongs in reality to Allan Burns, whose *Observations on Some of the Most Frequent and Important Diseases of the Heart*, 1809, is a well-known storehouse of interesting facts. Since, so far as I know, this distinguished writer's connection with this supposed new theory has not been pointed out (except in the second edition of my *Practice*), I will read to you in full what he says on the subject: "Such a state of the arteries of the heart [referring to atheroma] must impair the function of that organ. It has been long known, that although the heart is always full of blood, yet it can not appropriate to its own wants a single particle of fluid contained in its cavities. On the contrary, like every other part, it has peculiar vessels set apart for its nourishment. In health, when we excite the muscular system to more energetic action than usual, we increase the circulation in every part, so that to support this increased action the heart and every other part has its power augmented. If, however, we call into vigorous action a limb round which we have with a moderate degree of tightness applied a ligature, we find that then the member can only support its action for a very short time, for now its supply of energy and its expenditure do not balance each other; consequently, it soon, from a deficiency of nervous influence and arterial blood, fails and sinks into a state of quiescence. A heart, the coronary vessels of which are cartilaginous or ossified, is in nearly a similar condition: it can, like the limb begirt with a moderately tight ligature, discharge its functions so long as its action is moderate and equal. Increase, however, the action of the whole body, and along with the rest that of the heart, and you will soon see exemplified the truth of what has been said, with this difference, that as there is no interruption to the action of the cardiac nerves, the heart will be able to hold out a little longer than the limb.

"If a person walks fast, ascends a steep, or mounts

a pair of stairs, the circulation in a state of health is hurried, and the heart is felt beating more frequently against the ribs than usual. If, however, a person, with the nutrient arteries of the heart diseased in such a way as to impede the progress of the blood along them, attempt to do the same, he finds that the heart is sooner fatigued than the other parts are, which remain healthy. When, therefore, the coronary arteries are ossified, every agent capable of increasing the action of the heart, such as exercise, passion, and ardent spirits, must be a source of danger."

He discusses also whether the paroxysm was dependent on a state resembling paralysis, or on a spasmodic contraction of the fibres of the heart. He hardly thinks that the view of spasm is corroborated by any analogous facts in the animal economy. He says: "Do we ever, after the operation for aneurysm, see the muscles in a state of rigid action; or, when we apply the tourniquet only so tight as to impede the circulation, do we ever observe that the member is affected with spasm? In both cases we witness an induction of an extreme degree of debility, and we hear the person complaining of an unusual painful feeling in the limb, but still its muscles are in a state of inactivity. If these be the phenomena resulting from a deficiency of arterial blood in the muscular system in general, why should the heart be an exception? We know that this organ is principally composed of muscle, and we have therefore reason to believe that it is regulated by the same laws which govern other muscles."

I will read you this intermittent claudication theory as formulated by Potain, in 1870, and you will see how completely the distinguished clinician of *La Charité* has been anticipated by the old Glasgow professor: "If one considers the painful sensations, the disorders of the cardiac action, which constitute an attack of angina pectoris; if one but remembers that these paroxysms occur always after fatiguing movements, muscular efforts, or emotional disturbances—that is to say, under conditions in which the heart is compelled to contract more frequently and to do more work: if one considers finally, that repeatedly some narrowing or ossification of the coronary arteries has been found in the bodies of victims of this disease; if one considers these facts, it will appear in every way probable that the heart does not escape from the common law, that it also becomes rapidly exhausted when its arteries can no longer give it the quantity of blood necessary for its increased activity; and that then it becomes the seat of painful disorders, just as in the case of the muscles of the lower extremity. Herein lies a principle which may be briefly expressed as follows: The symptoms caused by ischemia become exaggerated whenever the diseased organ becomes active, because of the increased quantity of blood which this activity demands."\*

It is easy to suppose that a narrowing of the orifices

\* Charcot seems to have felt hurt that his communication on so remarkable a phenomenon had not received any attention. He says: "Je n'ai pas encore rencontré, chose singulière, car mon mémoire de 1855, présenté à la Société de biologie, n'est pourtant pas écrit en chinois, il me paraît écrit en français, presque en bon français, je n'ai pas rencontré, dis je, un seul médecin qui ait tenu compte de mes observations."

† *American Journal of the Medical Sciences*, May, 1894.

\* Quoted by Huchard.

of the coronary arteries, or of the lumen of a main branch, can bring about conditions most favorable for the production of this intermittent claudication—*i. e.*, a state in which, so long as the heart is acting quietly, sufficient blood reaches its muscle; but if called upon to act more forcibly, by exertion or emotion, the larger supply, then needful to maintain the nutrition, might not be forthcoming, with the result of a relative ischæmia and disturbance of function.

What is the condition of the heart muscle in this ischæmia? Is it likely to be the same in the narrowing of atheroma and in the blocking from thrombosis and embolism? How shall we account for the remarkable disparity between the incidence of angina pectoris—a rare affection—and the incidence of coronary-artery disease—an everyday degeneration in persons above the age of sixty? With what special conditions is the pain associated and what relation have the pains of pseudo-angina to those of the angina vera? What part is it probable that vasomotor changes play in the process? These are among the questions which must be asked and answered before we can accept the intermittent claudication or, indeed, any other theory. We may discuss these points under three heads: the state of the heart muscle, the seat and cause of the pain, and the vasomotor changes in the disease.

(To be concluded.)

## Original Communications.

### ON THE APPLICATION OF THE SERUM DIAGNOSIS OF TYPHOID FEVER

TO THE REQUIREMENTS OF  
PUBLIC HEALTH LABORATORIES.\*

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GREAT interest attaches to Widal's important communication to the effect that the serum of persons suffering from typhoid fever, even in the early stages, is capable, when mixed with a pure culture of the typhoid bacillus in bouillon, of arresting the active movement so characteristic of this organism and causing the bacilli to agglutinate into clumps resembling zoogloea. The serum of typhoid convalescents and immunized animals had been shown by Pfeiffer, Durham, and Gruber to possess this property. But Widal has certainly been the one to demonstrate its great clinical value. With the serum of an undoubted case of typhoid fever we are able to apply what appears to be the most conclusive of the tests at our disposal in deciding whether a given organism is really the typhoid bacillus or not. On the

other hand, with a culture of the genuine typhoid bacillus, we are able to decide whether a doubtful case is or is not typhoid fever.

Although the test is so recent in origin, those who have tried it appear practically unanimous as to its being of great delicacy, and, in particular, the negative results which it furnishes are of nearly as much practical value, something which can scarcely be said of the routine bacterial tests for tuberculosis.

Widal's original method was to obtain the serum from the vein of a patient's arm by means of a sterilized syringe, decanting the serum after it had separated and adding it to bouillon culture of typhoid bacilli. This was then placed in the incubator, and showed, after several hours, a flocculent precipitate composed of the immobilized and agglutinated bacilli and a clearing of the upper part of the fluid. This was found by Widal to be characteristic of typhoid blood. The blood in other febrile disorders, such as malaria, typhus, tuberculosis, pyæmia, etc., as well as the serum of healthy persons, were found to have no power of producing this phenomena when mixed with typhoid cultures. Those who have repeated Widal's experiments have also been able to confirm his statements that the colon bacillus does not give this reaction with typhoid blood.

Widal was fortunately led to simplify the method materially by taking a few drops of blood from the finger tip, and as soon as the serum was separated from the edge of this mixing it with a drop of actively mobile typhoid culture, whereupon the reaction could be satisfactorily observed under the microscope and was usually complete in a few minutes.\* Dieulafoy testifies to the remarkable accuracy of the test and its value in diagnosing obscure cases.

My attention was first directed to the test through having been consulted by physicians as to the nature of suspected cases of typhoid, and my experience has been thoroughly in accord with that of Widal and others as to its great value as an aid to clinical diagnosis.

As the reaction appeared to depend probably upon the presence of some substance analogous to the ordinary toxins, and as many of these preserve their characteristics in a dry state, it naturally occurred to me that this might be true of the substance producing the serum reaction. The advantage of being able to operate with a dried substance was obvious, especially with reference to the possible application of the method to the rapid bacteriological diagnosis of typhoid fever in municipal laboratories, just as is now done in the case of diphtheria, and my observations have been made with this end in view.

Instead of taking the serum as soon as it exuded, I allowed the drop to dry, and found that upon moistening it subsequently the solution obtained was just as

\* Read before the American Public Health Association, at Buffalo, N. Y., September 17, 1896.

\* This plan of observing the reaction directly under the microscope had been published by Gruber and Durham some months previously.



efficacious as the pure serum for the diagnostic purposes of the test.\*

This power appears to remain practically unimpaired even after the blood has been allowed to dry for many days. My experiments upon how long the blood will continue to react when in this dry state are not yet finished, but blood drops dried for from two to four weeks still give the reaction.

In this manner I have tested the blood of ten patients suffering from undoubted and typical attacks of typhoid. The reaction was obtained conclusively in every instance. In eight cases the loss of mobility and the agglutination was complete in from two to fifteen minutes. Of the two others, one, in a very early stage of the disease, required thirty minutes for the completion of the reaction, while the other in a very late stage, following a relapse, required one hour.

**Control Cases.**—The blood of ten other hospital patients, as well as a number of healthy individuals, was next tested, and in no single instance was the reaction obtained. Occasionally a pseudo-reaction with some agglutination was observed within a few minutes of the mixture of blood solution and culture, but some movements of translation (wandering through the field) always persisted on the part of isolated bacilli, and these gradually increased in number and activity till, in an hour or two, lively motion was resumed, and was found to be still present on the following day and, in some instances, where it was followed up, at the end of a week. With the typhoid bloods nothing but the oscillating or "Brownian" movements were seen, as a rule, though where the proportion of serum added was very small peculiar revolving and tugging movements, apparently due to the action of the flagella, could be made out, movements from one part to another of the microscopic field being, however, completely abolished.

In two doubtful cases examined for diagnosis the results were negative. In one of these the malaria plasmodium was subsequently detected. The other left the hospital before the diagnosis was cleared up, but her temperature had remained normal for two weeks, and her only symptoms were persistent headache and giddiness. One of the control cases, examined with negative results, had a history of typhoid two years previously.

[In making a communication upon this subject before the American Public Health Association at Buffalo, N. Y., on September 17, 1896, I subjected the method to what I considered to be a fair practical test as to its applicability to public health purposes. I left instructions for Dr. D. D. McTaggart, resident pathologist, to forward by post to my destination, after I had left

Montreal, a letter containing dried blood drops from several cases of undoubted typhoid fever and also dried blood drops for control from other hospital cases, preferably patients suffering from febrile conditions, but making sure that they had not had typhoid recently. All these blood drops were to be numbered and a key giving the clinical diagnosis in each case placed within a separate sealed envelope.

I left Montreal September 13th. Samples of blood from six patients were collected, and forwarded as directed on September 14th. On September 16th the letter was delivered unopened at Buffalo, N. Y., to Dr. Bissell, the City Bacteriologist for Buffalo, who kindly took charge of the key. At the end of an hour spent in examining the specimens, I wrote my diagnosis upon the outside of the sealed envelope. It will be seen from the subjoined signed statement, which Dr. Bissell kindly made at my request, that the results were perfectly in accord with the clinical diagnosis in each case, while the specimens, which were then examined by a number of competent bacteriologists, showed that good objective grounds existed for arriving at the conclusions given.

*Statement by Dr. McTaggart, Resident Pathologist, Montreal General Hospital.*—The samples of blood were mailed to Dr. Johnston one day after he had left Montreal. Dr. Johnston had no knowledge of the contents of the "key," and no private means of knowing which of the numbers referred to typhoid and which to non-typhoid blood. (Signed.) D. D. McTAGGART.

*Statement by Dr. Bissell, City Bacteriologist, Buffalo, N. Y.*—Buffalo, September 16, 1896: Received to-day from Dr. Wyatt Johnston a sealed letter, mailed in Canada, with postmark, "Montreal, September 14, 1896." This was opened by me and found to contain (a) six glass cover slips, numbered from 1 to 6, with a drop of dried blood on each, and (b) also a sealed envelope marked "key." Received from Dr. Johnston, after examining the blood by the (Widal) serum diagnostic test, the following report: No. 1, typhoid; No. 2, typhoid; No. 3, typhoid; No. 4, not typhoid; No. 5, not typhoid; No. 6, doubtful, probably not typhoid. The key was then opened by me and the clinical diagnosis from all cases found as follows: No. 1, typhoid; No. 2, typhoid; No. 3, typhoid; No. 4, malaria; No. 5, enlarged glands of neck; No. 6, heart disease.

(Signed.) WILLIAM E. BISSELL.

It will be noticed that a qualified though correct opinion was given at the time of my making the report in one of the negative cases (No. 6). This doubt was owing to the fact that it was the last specimen examined, and that a partial agglutination appeared to take place at first, though motion was not abolished. Subsequent examination some hours later showed such lively motion that I should have had no hesitation in declaring it not to be typhoid had the circumstances permitted that much delay before an opinion was given.]

\* Since writing the foregoing I have been able to obtain fuller accounts of Widal's work than were at first available, and find it stated by him (*Bulletin medical*, 12 août, 1896, p. 267) that dried serum, and to a lesser extent dried blood, are capable of furnishing the reaction. This circumstance does not appear to have been hitherto utilized practically.

A ready means of diagnosis in typhoid fever is something which has long been desired by sanitary officials. The medical profession is proverbially lax with regard to the notification of typhoid cases, and we may assume that this neglect is in part due to the want of any adequate *quid pro quo* in return for such notification. Probably the assistance derived from a prompt bacteriological diagnosis or even corroboration of diagnosis in the early stages of typhoid will lead to the more uniform reporting of cases. Besides distinguishing typhoid from such well-characterized diseases as tuberculosis and malarial disease, this test may also be expected to clear up the mystery which surrounds those doubtful cases of so-called bilious fever, remittent fever, gastric fever, typho-malarial fever, etc., which are so common in times and places where typhoid is prevalent, and rare in the absence of typhoid, at least in temperate regions which are free from malaria.

Those who are called upon to investigate epidemics of typhoid are much perplexed by the large number of cases of ill-defined and transitory fever occurring among those personally exposed to the infection, and the impossibility of coming to anything like a definite conclusion upon the evidence hitherto obtainable as to whether these are to be regarded as cases of abortive typhoid or not. In my own experience, such cases have usually equaled or outnumbered the cases where the symptoms justified a definite diagnosis.

I may add a few words with regard to technic. I use a dry lens of about one-fourth-inch focal distance. The dry blood drop is partly dissolved with germ-free water and a drop of the solution obtained is placed upon a cover glass which has just been passed through a flame and mixed with a drop of a typhoid bouillon (a watery suspension of an agar culture also answers very well). This is placed over a hollow cell sealed by vaseline. I control the examination by comparing it with a blood drop from an undoubtedly typhoid case and also with normal blood. It is also advantageous to place a minute drop of the blood solution upon the cover slip alongside the mixture of culture and serum, so as to satisfy one's self in negative cases that the blood contains no motile bacteria. Uniformity of temperature is the chief detail to be attended to, as the agglutination does not take place so well if the movements are sluggish. A hot-water dish filled with warm water forms a cheap and convenient substitute for an incubator, and a simple warm stage made of a sheet of copper is also useful. In a well-warmed laboratory, however, the use of these adjuncts is unnecessary. Hollow cells are convenient, but not indispensable. For collecting the blood drop any smooth surface suffices; cover glasses or slides have the advantage of being clean and sterile, but I have found ordinary writing paper or smooth cardboard most convenient, as it could be more easily labeled or forwarded. The swabs used for diphtheria outfits will answer, but the presence of extraneous substances, such

as fibres, was found annoying. The presence of blood pigment is rather an advantage, as it enables the drop to be more easily focused. The small fibrin particles of clot sometimes bear a superficial resemblance to the islets of agglutinated typhoid bacilli, but are readily distinguished from them by the presence of leucocytes in their meshes.

One advantage of having the blood dried is that it insures it against contaminating growth occurring during shipment. In case any doubt as to the reaction exists at first, it will usually be dispelled by watching the preparations for some hours, or, if necessary, for a day or two. This permits a decided and progressive increase of motion in non-typhoid cases and allows the more perfect agglutination in the genuine ones.

The one indispensable factor is perfect purity of the culture. The one which I use was kindly forwarded me by Mr. J. J. Mackenzie, Bacteriologist to the Ontario Provincial Board of Health, and was stated to have come originally from the Berlin Hygienic Institute. It grows typically on gelatin, potato, bouillon, agar, and milk; reacts typically with litmus agar, produces no indol or gas, and shows the motility and staining reactions characteristic of the Eberth bacillus.

I have made this communication because the method here suggested seems better adapted than those hitherto employed for bringing this test within the range of ordinary public-health laboratory work and enabling it to be dealt with, if I may so express it, in a wholesale manner.\*

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\* Drying the blood as a preliminary step has enabled the Board of Health of the Province of Quebec to offer to the medical profession here a free public service of typhoid diagnosis by the serum method similar to that which is followed in diphtheria. Outfits consisting of a folded and sterilized piece of paper, in which the blood drop is sent inclosed in a suitable envelope, are placed in convenient depots. In case of negative results an additional sample taken by collecting a few drops of blood in a small glass tube is examined, but this extra precaution is seldom necessary. As to the degree of accuracy which this application of the test may afford, it is too early to speak positively. From my experience hitherto I am inclined to believe that it will compare not unfavorably with those obtained in the cases of diphtheria and tuberculosis. In one case the reaction was present on the fourth day

abstract also in *Epitome, British Medical Journal*, March 14, 1896.

Grünbaum. *Lancet*, September 19, 1896, p. 806.

Gruber and Durham have announced a paper to appear shortly in the *Archiv f. Hygiene*.

French work (I have to thank Dr. E. P. Benoit for calling my attention to the very full and satisfactory report of Vidal's work in the *Bulletin médical*):

F. Vidal. Soc. des hôpitaux, June 26, 1896; *Bulletin médical*, 1896, p. 618.

F. Vidal. Congrès français de médecine, August 6, 1896; *Bulletin médical*, 1896, p. 766.

F. Vidal. Soc. des hôpitaux, July 31, 1896; *Semaine médicale*, 1896, p. 303.

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See also observations by Nicolle and Hallipré and by Lemoine, cited by Vidal, *Bulletin médical*, 1896, pp. 736 and 934.

Thoenen and Mills. *La Clinique* (Brussels), August 6 and September 3, 1896.

roughly classified with regard to their mental characteristics alone, as mania, melancholia, dementia, or still further particularized by the names which defined their periodicity, or the crisis at which they appeared, or the element of hereditary predisposition; although in a few exceptions, notably hepatic and rheumatismal insanities, the somatic element has been recognized.

The defect of most classifications of an assigned ætiology is that no serious attempt is made to satisfactorily connect the alleged cause with the symptoms and satisfactorily explain them. Granted that intrinsic defects, due to heredity, exist, no very clear or satisfactory explanation is given of what initial physical and secondary psychic disturbances follow. A great deal has been written about increased or diminished tension of the cerebral arterial system, but to those familiar with the exciting causes or pathology of insanity the irregularity of cerebral hyperæmia or anæmia must be manifest. Why a periodical mania should develop, subside, and reappear, the environment and other influences being unchanged during the entire course, has not been definitely explained. Why a confusional insanity most unexpectedly follows a surgical operation when there is little or no shock, or a form of puerperal insanity appears weeks after parturition, and when the danger of local sepsis has long disappeared, suggests the necessity of some fresh explanation.

Before going further in this direction it may be well to say that my desire for more exact knowledge in regard to the pathology and ætiology of such everyday disorders as acute mania or melancholia was stimulated by the experience common to most of us, that, where psychic causes exist, not only the mental but the physical disturbance is usually entirely out of proportion to any cerebral shock or demand upon the brain, and it seems strange that where the most extreme kinds of mental strain exist in some individuals, they are attended by comparatively little or no general disturbance. I was led to reason that if subjects who are subjected to comparatively superficial mental strain rapidly develop great physical derangement, disturbances of assimilation, feebleness, and emaciation, and die in a few weeks, there must be something beneath all this—something that has been simply lighted up or induced by the preparatory condition into which, perhaps, hereditary influences entered to some extent, or not at all. The observations of Herter and Smith point to the fact that that protean neurosis, neurasthenia, is closely connected with some form of disturbed intestinal function, and Eccles and Gautier clearly recognized the insufficient activity in the oxidation processes with the presence of the products of incomplete metabolism, and with an increase of the combined sulphates in the urine. The excellent work of Bouchard, Rodriguez, Chardon, and Chevalier Lavaure, and the more recent papers in your own country of Macpherson, Eccles, St. John Bullen, and Turner, have led to the inquiry whether a large number of acute in-

## THE CONNECTION OF INTESTINAL AUTOTOXIS WITH CERTAIN COMMON FORMS OF INSANITY.\*

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UNTIL quite recently the therapeutics of mental diseases have been very primitive, in view of the pathological advances that have been made in so many different directions, and do not appear to have been seriously influenced by the important researches that have marked the last decade, so far as deranged metabolism is concerned. Even to-day the management of insanity nearly everywhere consists chiefly in quelling excitement by narcotics, overcoming depression by stimulants and tonics, and affording rest, isolation, and protection.

I have for several years been impressed with the somatic origin of various psychoses, especially those which were first classified and defined by Krafft-Ebing as "acquired," and by others ascribed to certain epochs, and I have looked for some more direct and reasonable causes than those which are ordinarily alleged to exist, reaching the conclusion that in very many instances the existence of defective oxidation will explain the clinical features of numerous insanities which were formerly

\* Read before the Medical Society of London, May 11, 1896.



sanities are really not after all due to primal intestinal disorders, and if even the course of the chronic psychoses must not be more or less modified by the same agencies: and whether, this being true, we should not in the future direct our treatment more than we have in the past to the care of the digestive organs, placing less reliance on the use of the conventional narcotics, or other familiar modes of treatment.

With this end in view I made many months ago a series of investigations, the results of which have been based upon experiments with animals and clinical observations conducted in the hospitals and asylums with which I have been connected, and in my own practice and elsewhere. More than fifty cases of different kinds of insanity have been observed, which include examples of acute and chronic melancholia and mania, simple delusional insanities, primal and terminal dementias, paralytic dementia, periodic, puerperal, and traumatic insanities, and the alcoholic and drug psychoses. The variation of the urine and feces was noted, and all the cases were carefully watched. It would be impossible in a brief paper of this length to more than summarize my results, and it is my intention this evening to simply sketch the work that has been done.

The experiments were undertaken to determine first whether there was any specific or noso-toxicity of the urine of the insane; and, if so, what the nature of such toxicity was; next, to discover, if possible, how important and general was the theory of uric-acid poisoning; and again, whether mental disorders were produced and modified by an autotoxæmia; whether the offending substances were the leucomaines or the intrinsic products of putrescence in the intestines. According to Marie and Bosc, the urine of insane persons possesses a toxicity which varies and is more or less identified with the different forms of insanity. They found that it was increased in agitated melancholia, as well as in persecutory insanity and excitable mania, while there was only a normal amount in quiet mania, and the toxicity was much reduced in purely stuporose and senile conditions. As the result of their experiments upon animals, hyperthermy and anæsthesia, auditory hyperæsthesia, diminished reflexes, psychomotor disturbances, and agitation ensued; but their conclusions, however, were doubted by Seglas and Ballet, who contended that there was nothing distinctive in the findings. For the purpose of satisfying myself as to the possible extent of noso-toxis, I selected six patients, from whom the urine was obtained weekly, and conducted a series of experiments to determine whether there was any uniformity or peculiarity, but with negative results.

Rabbits were chosen and kept closely under observation for a number of days, and, although some of them manifested rather striking nervous symptoms, as well as the hyperthermy observed by the authors referred to, the results were neither constant nor characteristic. Two of the patients whose urine was injected were

melancholics, one was a case of acute mania, another of chronic mania, a fifth of parietic dementia, and the sixth of periodical insanity. The resulting effect seems to depend very much upon the increased specific gravity of the specimen, and on the evidences of intestinal disorders and malnutrition. The urine of the parietic was always exceedingly toxic, which property was possessed by that of the periodic patient, whose urine showed a large amount of indican, while in only one of the other cases of mania in which the specific gravity of the urine was high, was there any result effected by its injection. In these dense urines there was an increase of the combined sulphates and urea. Large quantities, amounting to forty cubic centimetres of the urine of the melancholic, were injected without any apparent effect, so I was forced to abandon the idea that the excreta, in certain forms of insanity, presented specific toxic qualities. The only interesting psychic manifestation besides an apparent stupidity was the causation, in the rabbit that had received the injection of urine from the parietic patient, of rather a curious condition, which led me to believe that hallucinations of vision existed. There was absolutely nothing, however, that could be regarded as uniform, although frequent injections were made. So far as the influence of uric poisoning is concerned, I am clearly of the opinion that it has not as much to do with the genesis of mental disease as is alleged for it by the more enthusiastic, but in those cases in which it is supposed to play an ætiological part it is a very grave question whether its presence is not indicative of another kind of poisoning, which is the result of the destructive metabolism of nuclein, the amount of uric acid measuring the amount of leucocyte activity, and we are confronted with the query whether the initial destruction is not due after all to a primary intestinal disorder. The symptoms produced by the injection of urea and uric acid into animals, as detailed by Bouchard, though possessing a certain uniformity, have too limited significance in view of the varying symptoms which enter into the clinical picture of various insanities due to the absorption of putrescent substances. One distinguished writer has announced that melancholia especially is due to the accumulation of the second of these substances, and that one of its important features is the increased arterial tension, an assumption which I do not think is always tenable, though it may occasionally exist, for my own experience teaches me that there are many cases of this mental disease where the arterial condition is the reverse. So far as the influence of retained leucomaines is concerned, there seems to be much more reason to believe that, in the subjects where there is the retention of the physiological products of waste, disorders of the nervous system generally ensue. Salomon has found that when paraxanthin was introduced into the blood stream of the smaller animals, states were induced resembling some of the psychoses observed in man, and I am informed that

he has produced in a mouse a condition, so far as objective appearances are concerned, closely resembling stuporous melancholia. His experiments in 1892, and those of Mendel subsequently, prove that it was possible to produce symptoms similar to those of katatonia by the injection of this substance into white mice, dogs, and cats. Vaughan injected a small quantity of hypoxanthin into a frog, which some hours afterward became convulsed. Remembering that paraxanthin and heteraxanthin are the organic analogues of the vegetable alkaloids caffeine and theobromine—one being a dimethylxanthine and the other a methylxanthine—the natural speculation may arise whether the effect upon the nervous system of the latter might not be duplicated in the organic extracts, although Vaughan and others have concluded that the organic alkaloids obtained from ptomaines, or rather diamines, have not the identical physiological effects of such vegetable alkaloids as atropine, morphine, coniine, etc.

At my request, Dr. E. E. Smith, of New York, prepared a quantity of hypoxanthin in the following manner:

Liebig's extract of beef was dissolved in a large volume of water, and lead acetate added till no further precipitate was produced; the solution was filtered, the filtrate treated with hydrogen sulphide till the lead was precipitated, and this filtrate evaporated to a small volume and the creatine crystallized in the cold. The evaporation of the crystals was aided by the subsequent addition of several volumes of an eighty-eight-per-cent. alcohol. The mother liquor, after removal of the alcohol, was precipitated with ammonia and silver nitrate, the precipitate dissolved in nitric acid of specific gravity 1.1 by the aid of heat, and the solution cooled, when crystals of hypoxanthin silver nitrate separated out. This salt was suspended in water, decomposed with hydrogen sulphide, and the filtrate evaporated to a small volume, whereupon hypoxanthine nitrate crystallized out.

Microscopical examination of the crystals of hypoxanthine nitrate showed the characteristic form with the exception only of one or two acicular crystals, doubtless mere traces of adenin.

With this product I conducted a series of experiments on rabbits and monkeys. Hypoxanthine was mixed with the food and given in doses varying from ten to fifteen centigrammes at intervals of an hour, until a hundred and fifty centigrammes were given, without any satisfactory results so far as the production of symptoms of any kind was concerned. Of four rabbits, only one presented toxic symptoms, and to a Java monkey as much as fifty centigrammes were given without any apparent effect. The susceptible subject was a lively nervous rabbit weighing three pounds and a half, to whom twenty centigrammes were given in bran. Within five minutes after taking it, the animal manifested some excitement, rubbed its paws vigorously, and

was restless and disturbed by noise or jarring of the floor; its ears became exceedingly congested and its reflexes were affected by the slightest tap. This irritability gradually subsided, so that at the end of two hours it became dull and stupid, and did not resist pinching or other forms of stimuli. Its paws could be pricked with impunity and without any apparent evidence of feeling. Its pupils were widely dilated, and the pupillary reflex was lost, while there seemed to be retinal insensibility, for it did not mind a lighted match or the application of an irritant. When with much urging it was made to move, it dragged its hind legs, and there was no effort to escape. It remained in a condition of torpor for over an hour and gradually resumed its normal condition of liveliness. The same rabbit subsequently manifested identical phenomena when twenty cubic centigrammes of a fifty-per-cent. solution were introduced into the circulation.

It would appear that the intestinal toxalbumins have more to do with the production of disturbance of the nervous system than the leucomaines, which undeniably have an effect, though not a very marked one. Selmi obtained ptomaines from the urine of a paretic patient which, when injected into an animal, produced convulsions, and according to Vaughan and others most of the ptomaines produce convulsions and other forms of hyperkinesia.

A study of the cases that have formed the basis of observation for the past year unquestionably bears out the assumption that disturbances of the gastro-intestinal tract, more often than is generally supposed, are attended by bacterial necrosis and the introduction into the general circulation of certain very virulent toxic agents whose effects are expended mainly upon the nervous system. I think I am safe in saying that nearly all the rapidly developing confusional insanities have this explanation, and we must, therefore, be on the alert for such a cause, even when the case has commonplace features. No other alternative has presented itself so strongly to my mind as that of intestinal putrefaction, and in all the patients whose urine was examined a decided increase in the amount of indican was found, even when the diet was carefully regulated.

A sudden and rapid development of incoherence, then, with malassimilation, highly colored urine, and delusions that are unsystematized, clearly suggests an inquiry into the condition of the organs of digestion, and the first step should consist in a complete examination of the urine and feces. Even in the chronic insanities the occurrence of *acids* and convulsions has, in my experience, been attended with some defect of metabolism, and the determination of the sulphate ratio has afforded me great help in diagnosis.

Turner, in an admirable paper, determined that the ratio of the preformed and aromatic sulphates in general paresis, while not very markedly increased in the early stages, became decidedly so in the established dis-

ease or coincidentally with the *accès*, the ratio rising and afterward subsiding.

It would appear, from my own cases, that those usually showing little or no excess of combined sulphates include examples of chronic delusional insanity, chronic melancholia, and some of dementia. In individuals whose mental condition was one where imperative concepts played the chief part, the urine showed nothing that was unusual, at least so far as absorption of intestinal putrefactive products was concerned.

From the data obtained from all available sources, my own cases and others, it would appear not only that the ratio of the sulphates between themselves and to the urea, and the presence of indican in considerable amount, are indications of intestinal putrefaction, which no doubt influence the course of various insanities, but that a large increase of the combined sulphates has much to do with the genesis of various psychoses, and Bence Jones has noted this in delirium, while Regis and Chevalier Lavaure recognize the gravity of septic poisoning in other well-known mental conditions, but so far, though our knowledge is somewhat crystallized, the matter is still unsettled, and there is much to be learned with regard to the importance of the sulphatic ratio. My investigations convince me that the presence of indican in the urine of the insane has the most significance, so far as constancy is concerned, for in nearly all the cases which were not simply evolutionary it has been discovered in excessive quantities, in connection with the development or as a feature of an exacerbation of an existing mental disorder.

What is an excessive quantity? may be asked. The reply is: Any amount that can be detected in the urine by Jaffe's test, even if a weak reaction is obtained. Smith fixes the harmful amount at anything more than five milligrammes in twenty-four hours, and the color may vary from a light pink to a deep purple. In two or three of my cases the appearance of indican was nearly always coincident with the outbreak of new symptoms or the intensification of old ones, and it always marked the existence of a putrefactive process, bearing out the axiom that the presence of indol indicates bacterial death in the intestines. As regards the special connection of urinary findings of this kind with different kinds of mental disease, it would appear that in all forms with loss of weight and depression the sulphate ratio between the combined and preformed sulphates was lower than in health. It has been pointed out by Senator that an abundant appearance of indican under these circumstances indicates starvation, and, from the lowered quantity of preformed sulphates found in cases of inanition, Herter and Smith agree with him. In melancholia especially, the amount of indican depends upon whether the disease is of the stuporous or agitated variety, the quantity of this substance found not being so great in the former. In one of the series of cases in Bloomingdale Asylum, examined by Dr. Dodd, it was

absent only once in a series of seventeen examinations, and always existed in large quantity with a corresponding decrease in the sulphate ratio, the latter varying from one half to one twelfth. In such cases of melancholia the blood-corpuscles and hæmoglobin seem to undergo a decided diminution, which has been observed in other conditions where anæmia existed in association with the increase of the combined sulphates and the presence of large quantities of indigo blue. I believe it was the late Sir Andrew Clarke who first pointed out the connection between anæmia and the absorption of the products of intestinal putrefaction. In all the melancholic and other patients in which the coincidence existed, the variations in the hæmoglobin and red corpuscles were closely connected with the absorption of toxic substances, the extent of which was announced by the increase of the combined sulphates, while the physical appearances were those of malnutrition. Such a case was that of a young lady whose feebleness and exhaustion were extreme, and were coincident with a mental condition manifested by an initial neurasthenia, with digestive disorders, depressing delusions, self-accusation, and attempted suicide. The hæmoglobin was reduced to thirty per cent., and the red corpuscles to less than three hundred thousand. This state existed in connection with a low sulphate ratio and a constant output of indican, notwithstanding the fact that appropriate diet was ordered. The course of treatment, in which nuclein-forming agents and lavage and intestinal washing figured, cured her in two weeks, after arsenic and iron and forced feeding had failed.

Some forms of melancholia are undoubtedly due to autotoxis dependent upon impaction and copremia, although the passage of an apparently sufficient amount of fecal matter may incline the observer to ignore the existence of constipation as a cause. If the urine of such patients is examined, a large excess of aromatic sulphates will be found, with increased indigo blue and possibly skatol. Two such cases have made a great impression upon me, for the reason that, notwithstanding the passage of what looked like fair-sized stools, which to all appearance contained the recognized *débris* of food taken within twenty-four hours, such was not the case, and a certain accumulation existed which gave rise to a melancholia of an almost stuporous kind at first, but which subsequently became excited after a week or two, and was quickly cured by the recognition of the obstruction and its removal. In this case the increase of ethereal sulphates was enormous, the presence of indican being detected in large quantities. After the bowels were emptied and naphthalin was given, the delusions, which were more or less systematized, quickly disappeared, and the urine became normal. It would seem that circumstances sometimes modify the course of a chronic melancholia by favoring the increased elimination of more or less toxic products, so that an im-



provement in the mental state is witnessed, at least for a time. In a case reported by Eccles, an attack of influenza in a melancholic caused an increase in the elimination of urea and the leucomaines, with a coincident improvement of the mental depression, which, however, reappeared when the pyrexia subsided.

(To be concluded.)

## THE

# SOURCE OF URIC ACID IN THE ORGANISM.

A REVIEW OF SOME RECENT PAPERS.

By ALBERT MATHEWS,

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ALTHOUGH in man and most mammalia uric acid normally constitutes but a small portion of the nitrogenous outgo, it may in many diseases—i. e., acute fevers, rheumatism, gout, leucocythæmia—be excreted in considerable amounts. The determination of the origin of this substance in the body has thus a pathological and practical as well as a physiological interest. In birds and reptiles, as has long been known, uric acid forms the greater part of the nitrogenous excretion.

The origin of this acid in mammals and birds has until recent years been disputed. By Zalesky,\* Bartels,† Ererichs,‡ and Fleischer# the kidneys were regarded as the seat of its manufacture. This was shown to be erroneous by Chrzonszczewski,|| who observed in geese with extirpated kidneys a deposition of uric acid in the tissues generally; by Salkowski,^ who showed that in kidney disease uric-acid excretion was not materially diminished; and by Abeles,^ who found that the living kidney was unable to synthesize uric acid.

Virchow, and also Ranke, regarded the spleen as the seat of uric-acid formation, because, in leucæmia, this organ enlarged coincidentally with the appearance of the acid in the urine.

Facts soon accumulated, however, pointing toward the liver as the place of origin of uric acid in birds. Meissner‡ demonstrated that the liver in mammals contained more urea and in birds more uric acid than any other organ. Finally, the decisive work of Minkowski† proved that in birds the liver plays a predominant rôle in the formation of uric acid.

This author found, in working upon geese, that if the liver was extirpated or ligatured out of the circulation, the amount of uric acid excreted greatly dimin-

ished. In one case it fell from 1.042 gr. excreted in twelve hours before extirpation to 0.045 gr. in twelve hours after extirpation. In no case, however, did the excretion of the acid completely cease. At the same time there appeared in the urine great quantities of lactic acid, never present in normal urine, and the proportion of ammonia excreted rose to nearly five times its former amount. Furthermore, after the extirpation of the liver, such substances as glycocholic acid, ammonia, amido acids, asparagin, and asparaginic acid, the injection of which into healthy birds was followed by a great increase in uric-acid excretion, no longer had such an influence, but these substances were either excreted unchanged, or appeared in the urine as ammonia. These facts led to the following conclusions: (1) That ammonia was one of the substances out of which the normal bird organism formed uric acid; (2) that the liver was essential to this formation; and (3) that there was a small residual portion of uric acid in birds, the origin of which remained unexplained, and was hardly to be attributed to the liver.

It could not, however, be concluded from these experiments that the mammalian uric acid had a similar origin. On the contrary, many facts indicated that the formation of urea in mammals corresponded in them to the uric-acid formation in birds, and that mammalian uric acid had a quite different origin.

This was in part shown by the fact that the injection of substances such as glycocholic acid, leucine, asparagin, asparaginic acid, amido acids, and ammonium carbonate (Schlugen and Nencki, von Knieriem,\* Schmiedeberg,† Salkowski,‡ Halleworden,^), which greatly increased uric-acid excretion in birds, produced in mammals no alteration whatever in the uric acid, but instead a great increase in urea outgo. Von Schroeder|| discovered further that, if blood containing glycocholic acid, ammonium carbonate, or amido-acids was allowed to flow through still living mammalian organs, the liver alone was able to form urea. Kidney and muscle lacked this power. No one of the organs experimented upon formed uric acid. He also observed that if the liver was cut out of the circulation the organism no longer converted ammonia into urea.

These observations were confirmed and extended by the work of Nencki, Pawlow, and Zalesky.^ These observers discovered that if a fistula was made between the portal vein and the inferior vena cava so that blood

\* Untersuchungen über den uricämischen Process. Tübingen, 1866.

† Handb. der Krankheiten des Harnapparates, 1875.

‡ Bright'sche Nierenkrankheit, 1851.

# Archiv f. klin. Med., xxix.

|| Virchow's Archiv, Bd. xxxv.

^ Pflüger's Archiv, Bd. viii.

^ Wiener Med. Sitzungsber., Bd. lxxviii, S. 187.

‡ Zeit. f. rat. Med., xxxi, Bd.

† Minkowski Ueber den Einfluss der Leberextirpation auf den Stoffwechsel. Archiv f. exp. Path. u. Pharm., Bd. xxi, 1886.

\* Zeit. f. Biol., Bd. xiii, 1877.

† Zeit. f. Biol., Bd. vii.

‡ Zeit. f. phys. Chem., i.

^ Archiv f. exp. Path. u. Pharm., Bd. x.

|| Archiv f. exp. Path. u. Pharm., Bd. xix. Archiv f. Anat. u. Phys., 1880.

^ Ueber den Ammoniakgehalt des Blutes und der Organe und die Harnstoffbildung bei den Säugethieren. Archiv f. exp. Path. u. Pharm., Bd. xxxvii, 1895. Also, Die Eck'sche Fistel zwischen der unteren Hohlvene und der Pfortader, ihre Folge für den Organismus. Archiv f. exp. Path. u. Pharm., Bd. xxxii, 1893.

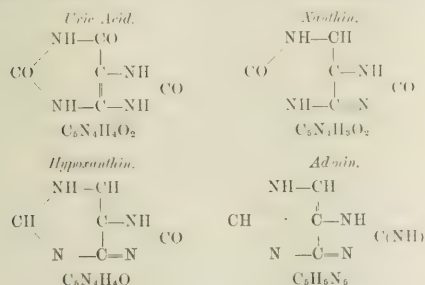
from the intestine no longer passed through the liver, the animals died in some days or weeks, showing every symptom of ammonia poisoning. In such animals it was found that the secretion of urea almost ceased and that great quantities of ammonia appeared in the urine. The uric acid was increased, instead of diminishing as in birds, but this, as will presently be shown, was in all probability an indirect effect. It was discovered, too, that after the Eck fistula had been made, a diet containing meat, glycocholl, or ammonia gave rise in the animals to symptoms of ammonia poisoning and resulted at times fatally.

An examination of normal animals gave the interesting result that the blood coming from the intestine in the mesenteric vein contained about five times as much ammonia as that in the vena cava inferior and ten times as much as the carotid blood, and, furthermore, that the mucous membrane of the stomach was exceedingly rich in ammonia. The authors concluded that ammonia was formed by the stomach mucous membrane; that it was carried to the liver and there converted, in part at least, into urea; and that this function of the liver was of very great consequence to the organism.

From the experiments just quoted, it became clear that the substances producing uric acid in birds produced urea in mammals; that the seat of the synthesis in both cases was the liver; that ammonia was a normal forerunner of uric acid in birds and of urea in mammals, thus showing a parallelism between the urea formation in mammals and uric-acid formation in birds. The experiments also showed that in mammals uric acid was not formed by the liver, and hence that mammalian uric acid was not formed in the same manner as the greater part of that found in birds.

The source of the uric acid of mammalia and a small portion of that in birds remained still obscure. Light was to come from an unexpected quarter.

Uric acid, as will be seen by a glance at the following formulae, closely resembles the so-called nuclein bases, xanthin, hypoxanthin, guanin, and adenin, bodies which are also found in the urine in small quantities.



This close resemblance made it probable that all had the same origin in the body. So, when Kossel\* showed

that the xanthin bases were the products of the decomposition of the proteidlike bodies called nucleins, found in the cell nuclei, he at once suggested that uric acid had a similar source. All attempts, however, to derive uric acid from these bases or from nucleins, either outside of the body or by injection into the latter, were succeeded in demonstrating that uric acid is indeed, failures.\*

Horbaczewski† took the problem at this point and under certain conditions, the product of nuclein decomposition.

By first digesting spleen pulp with water at 40° to 60° C. until decay began (eight hours), by which process a great part of the nucleins passed into solution, precipitating the albuminous matter with lead acetate, and then treating the filtrate with well-aerated arterial blood or superoxide of hydrogen for some hours at 40° to 50° C., he obtained a considerable amount of uric acid (one gramme of spleen yielded 2.5 milligrammes of uric acid). If the filtrate, instead of being treated with blood, was boiled, it yielded xanthin bases instead of uric acid. This experiment showed that the xanthin bases and uric acid were derived from the same mother substance. This substance, if oxidized before its decomposition, as probably occurred in the organism, yielded uric acid; if unoxidized, it yielded no uric acid but xanthin bases instead.

To show that this substance was derived from the nuclei, Horbaczewski isolated these by pepsin digestion, and extracted the residue with ether and alcohol. The clean nuclei thus obtained, when treated with blood as already described, yielded uric acid. By similar treatment he obtained uric acid from the liver, brain, lungs, thymus gland, and skin, both of calves and men.

The facts just sketched led at once to the conclusion that the appearance of uric acid in the mammalian urine was due to a cellular decomposition. The cells most readily decomposing are the leucocytes, so that it was not improbable that the bulk of the uric acid was derived from them. Many facts bore this out. In nearly all cases of leucocytosis uric-acid excretion increases. This is the case in leucæmia (leucocythæmia) and the normal leucocytosis after eating meat. Horbaczewski found, in the examination of five men, that after a meal containing meat the number of leucocytes increased from fifty to sixty per cent., and uric acid excreted rose, in one case, two hundred and seventy per cent.; after a vegetable diet the leucocytes increased only from one to twenty-three per cent.; and the increase in uric acid excreted was only from two to ninety-four per cent. In these cases of carcinoma ventriculi there was no digestive leucocytosis, and in these cases there was no increase in uric acid.

\* See Stadthagen. Virchow's *Archiv*, vol. cix, p. 420. V. Mach. *Archiv f. exp. Path. u. Pharmac.*, Bd. xxiv, 1888.

† Sitzungsber. der Wiener Akad., Bd. c, 1892. *Monatshefte f. Chemie*, 1888.

The influence of drugs upon uric-acid excretion found here a possible explanation. Thus quinine, which diminished uric acid, diminished also the number of leucocytes; atropine had a similar effect; pilocarpine, on the other hand, caused a pronounced leucocytosis, accompanied by a rise in uric-acid excretion; antipyrine and antifebrin, which in small doses diminished uric-acid excretion and increased it in large, caused in small doses a slight increase in the number of leucocytes, due, perhaps, to their checking the process of leucocyte destruction.

The rise in uric-acid excretion after phosphorus poisoning, in acute fevers, in burns, and cachexia may also be due, Horbaczewski suggests, principally to the accompanying leucocytosis, although it may be due in part to the extensive destruction of other tissues occurring in these conditions.

Whether or not most of the uric acid in mammals is thus due to a decomposition of leucocytes has been the subject of keen research, which has, on the whole, confirmed Horbaczewski's position.

Jacob and Krüger,\* in a case of leucæmia treated with injections of spleen extract, observed a decided fall in the number of leucocytes after injection, and a decided and corresponding increase in the uric acid excreted. Richter † and Weintraud ‡ showed that in man ten grammes of the sodium salt of nucleic acid taken into the stomach, or the eating of substances rich in nucleins, as the thymus gland of the calf, produced a pronounced increase in uric-acid excretion. Hess § observed, after eating calves' thymus glands, an immediate increase in the nuclein bases in the urine. Jaksch || found that uric acid and the xanthin bases were never present in the normal blood, but only in dyspnoic states, pneumonia, nephritis, and anaemia. Weintraud ¶ found uric acid in the blood of men and dogs after feeding with nucleins. From the microscopical side, Gumprecht † observed in leucæmia a great degeneration of leucocytes. Kuhn ‡ carefully investigated the relations of leucocytosis to uric-acid excretion and came to the following conclusions:

1. In a number of diseases in which leucocytosis occurs, an increase in uric-acid excretion may be recognized.
2. The increase in uric-acid excretion can not alone be conditioned by the fever, since it occurs also in diseases without fever (cachexia leucocytosis).
3. The quick decrease of a leucocytosis coincides with a rise of uric-acid excretion.

4. Leucocytosis, experimentally caused, is coupled with an increase in uric-acid excretion; the latter reaches its highest point first when the leucocytosis disappears.

5. It is possible, also, without the medium of the leucocytosis, by introducing leucocyte-containing material (aseptic pus, thymus emulsion), to cause an increase in uric acid.

6. The injection of nucleins causes directly an increase in the excretion of urates. The coincident leucocytosis can not alone be answerable for the latter.

7. The leucocytes furnish a chief part, although not all, of the material out of which uric acid is formed.

The practical importance of Horbaczewski's discovery in the treatment of disease in which a large excretion of uric acid occurs is, of course, very great, but the papers which have thus far appeared do not yet permit of definite conclusions.

Kalisch \* gives the following summary, or diagnostic scheme:

I. Increase of alloxin bodies (uric acid and xanthin bases) *in toto*.

1. With leucocytosis (leucæmia).
2. Without leucocytosis (uretic diathesis).

II. Normal total amount of alloxin bodies, but bases increased and uric acid decreased.

1. Blood consumption.
2. Nephritis.

The experiments clearly indicate the great importance of diet in such conditions. Uric acid is increased by a diet containing nucleins and by pilocarpine, and decreased by a vegetable diet, by atropine and quinine, and acetanilide and antipyrine in small doses.

The work of Horbaczewski, together with that of Minkowski, Pawlow, and others, permits the conclusion that in birds the greater part of the uric acid, and in mammals the formation of urea, is brought about by a synthesis of ammonia with unknown bodies, in which the liver plays a predominant rôle; but that the uric acid found in mammals, and possibly a small part of the uric acid of birds, is derived from nucleins on the decomposition of cell nuclei, and chiefly from the nuclei of the white blood-cells.

#### NOTE OF

#### A CASE OF FACIAL HEMIATROPHY.

By ALBERT ABRAMS, A. M., M. D.,

PROFESSOR OF PATHOLOGY, COOPER MEDICAL COLLEGE, SAN FRANCISCO

THE following case, seen in consultation with Dr. S. Trask of this city, presents an unusual phenomenon. The case is interesting for two reasons: as a contribution to the limited number of cases of facial hemiatrophy and as emphasizing the close relation between the trigeminal and this disease.

\* *Deutsch. med. Woch.*, 1894, p. 644.

† *Ztsch. f. klin. Med.*, 27.

‡ *Berl. klin. Wochenschr.*, 95, No. 19.

§ *Vierteljahr. Cong. f. inn. Med.*, Wiesbaden.

|| *Ueber die klin. Bedeutung von Harnsäure u. Xanthinbasen im Blut.*

Berlin, Fischer, 1891.

¶ *Vierteljahr. Cong. f. inn. Med.*

‡ *Ibid.*

‡ *Ztschr. f. klin. Med.*, 95.

\* *Wiener klin. Wochenschr.*, 95.



The case is succinctly as follows: A. T., aged twenty-one years, bookkeeper; no neuropathic history; no history of alcoholism or syphilis. About a year ago he first noticed a feeling of tension in the skin over the left malar bone together with stoppage of the left nostril. Suffers from paroxysms of supraorbital neuralgia on the left side. It is for the latter affection that he has sought counsel. On examination, the mucosa of the left nostril is congested and shows occlusion beginning at the anterior tip of the lower turbinated bone. The septum is slightly deviated toward the left side. On the cartilaginous septum, just within the vestibule, is a slight erosion. A posterior rhinoscopic examination shows an abundance of lymphoid tissue. Sight and hearing are unaffected. On and below the left malar bone is a pigmented spot, of about the size of a dollar, which is depressed. The skin on this side of the face is atrophied and there is a decided absence of panniculus. The skin to a very limited extent over the malar bone is adherent to the subcutaneous tissues. The other structures on the left side of the face are in no wise affected. The electric reactions are quantitatively but not qualitatively altered. Examination of the cranial nerves, with the exception of the trigeminus, shows nothing abnormal. There is complete anæsthesia with analgesia of the skin supplied by the second branch of the left trigeminus. The left supraorbital nerve is painful on pressure. Smell on the left side is perceptibly diminished, although this anomaly may be quite independent of any trigeminal lesion. The sense of taste is unaffected. The masticatory muscles are not implicated. As in the average case of hemiatrophy, the left side of the face is implicated. The etiology of the affection in my patient is obscure. As in a few of the cases thus far reported, supraorbital neuralgia preceded the atrophy.

My case is especially characterized by pronounced alteration in the cutaneous sensibility in the affected region. This is an exceptional phenomenon in unilateral facial atrophy. The prevailing theories in explanation of facial hemiatrophy are: 1, that it is provoked by some lesion of the vasomotor system; and 2, that it depends on some disorder in the trophic fibres of the trigeminus. The latter theory is more in accord with prevailing opinion. Ruhemann\* demonstrated the close relation between facial atrophy and the trifacial. The case of Mendel,† which was likewise examined by Virchow,‡ is of considerable interest in explaining the pathology of this rare affection. His patient had died of phthisis. In the descending root of the trigeminus atrophic changes were demonstrated, a fact which would seem to indicate the presence of trophic fibres. As far back as 1839, Magendie\* demonstrated in dogs trophic disturbances resulting from division of the trigeminus.

These disturbances essentially duplicated all the phenomena of facial hemiatrophy. Many cases of the latter affection are best explained by regarding them as cases of peripheral neuritis, the resulting disturbances

depending on whether the trophic, sensory, or motor fibres of the trigeminus are affected. At the present time the preponderance of evidence is in favor of the hypothesis that facial hemiatrophy is a trophoneurosis.

784 GEARY STREET.

## A RARE CASE OF TINEA VERSICOLOR.

By E. D. SMITH, Ph. C., M. D.,  
CHICAGO.

In *Morrow's System of Genito-urinary Diseases, Syphilology, and Dermatology* there occurs this statement in regard to tinea versicolor: "The disease has never been observed on the inner surfaces of the hands or the plantar surfaces of the feet."

In July, 1895, Mr. A. consulted me for trouble with his feet that gave him great uneasiness. The patient was a drinking man and feared this was one of the causes of the disease. He said it had been in existence for three years. When he came to me, he reported that he had consulted several physicians and none of them could tell him the nature of his disease.

On examination I found a patch on either foot. The rest of the body was free from the disease. Both patches were of considerable extent—on the left foot, covering that part of its under surface corresponding to the metatarsal bones; on the right foot, covering that part corresponding to the tarsal bones. On both feet there were several slight prolongations on to the sides of the feet. The patches were of a pale-red color, their peripheries being darker than their centres, which were nearly of the appearance of normal skin. The patches were easily distinguished by daylight, but with difficulty by lamplight. The microscope revealed the characteristic fungus.

He complained of slight itching, which was aggravated when his feet became warm as a result of exercise or from being in a warm room. The itching annoyed him most when, after going to bed, his feet became warm.

I began treatment by having him soak his feet in warm water, using plenty of soap to remove the thick, effete epidermis. Then I had him make applications twice daily (mornings and evenings) of a watery solution containing two drachms to the ounce of hyposulphite of sodium. To relieve the itching I gave him the following prescription—viz.:

R. Menthol.....	3 iiij;
Camphor.....	3 iiij;
Albolene.....	3 ij

M. et sig.: Apply locally every two hours.

The hyposulphite of sodium did not seem to effect a cure, and I directed that he use in its place the U. S. P. tincture of iodine. This was applied lightly, with a camel's-hair brush, once a day. A few applications of this effected a cure.

305 DIVISION STREET.

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Obstetrics and Gynecology, on Tuesday evening, the 27th inst., the following papers were to be read: The *Ætiology, Pathology, and Diagnosis of Mammary Inflammations*, by Dr. W. G. Taylor, and the *Treatment of Mammary Inflammations*, by Dr. Eugene Smith.

\* *Deutsche med. Wochenschrift*, 1889, 3, 55.

† *Deutsche med. Ztg.*, 1888, 33.

‡ *Deutsche med. Ztg.*, 1888, 33, p. 407.

\* *Fonctions et maladies du syst. nerv.*, 1839, ii, p. 52.

# CLASSIFICATION AND NOMENCLATURE OF DISEASE, PARTICULARLY IN SPECIAL BRANCHES.

By J. H. FARBER, M.D.,  
DAYTON, OHIO.

A PERFECT classification and nomenclature of diseases is none the less desirable in general practice; but in special work, owing to the wide fields that have been opened up in recent years, it is imperatively demanded.

In text-books of nasal diseases there is still much imperfection and confusion of classification. The individual worker must classify affections in such manner as seems best suited to his experience, and in writing upon cases he often finds it necessary to go over his Gray both in the article and in his own mind. There should be, however, no necessity for a word picture of differentiation of classification in each article. A correct classification, founded upon anatomy, pathology, and symptomatology, would obviate such necessity and aid research, statistics, and even diagnosis.

With this rather long preamble, I would respectfully submit the following classification and nomenclature of diseases of the nasal and contiguous sinuses. Without claiming for it originality and absolute perfection, it seems to me better than some of the old ones. It is a modification and an extension of that of Dr. Ingals, of Chicago.

Starting with rhinitis, we would have the following—diagrammatically:

Rhinitis.	{	Acute catarrhal.	{ Acute suppurative.
		Chronic catarrhal.	{ Chronic " "
Rhinitis. Chronic catarrhal com- plications.	{	Intumescent.	{ Simple.
		Hypertrophic.	{ Complicated.
		Atrophic.	{ All complications with
		Syphilitic.	{ various accessory
		Tubercular.	{ sinus disease.
Accessory sinuses.	{	Strumous.	
		Anteal.	{ Acute suppurative.
			{ Chronic " "
	{	Ethmoidal.	{ Anterior.
			{ Acute suppurative.
			{ Chronic " "
			{ Acute " "
			{ Chronic " "
	{	Frontal.	{ Acute catarrhal.
			{ " " suppurative.
	{		{ Chronic " "
		Sphenoidal.	{ Acute " "
			{ Chronic " "

Various local manifestations of specifically named diseases, such as lupus, rodent ulcer, etc., various growths in different locations, all modify conditions present, but do not of necessity require classification under separate forms.

In this classification I have eliminated ozæna. Where shall we put it? Its horrible stench declares its existence. In answer, it is commonly conceded to belong to one of two classes—syphilitic (hereditary or acquired) or strumous rhinitis.

In defense of the classification of chronic catarrhal rhinitis, I urge that all specialists will agree that cases they have seen seem to belong exclusively to one or the

other of the above forms, and that many cases will show two or three or more of the same forms at the same time, and frequently two forms in the same individual at the same time and even on the same side. Probably as good a defense as is needed for those who claim atrophy as a result of hypertrophy is the familiar fact of their coexistence. But there is no student of atrophy who will say that it is necessarily associated with ozæna. Therefore, we must dissociate them at once. But we may say that in ozæna there is atrophy. I am inclined to believe that ozæna occurs *only* in syphilitic cases. It will be impossible in many cases to elicit such history. I have seen many so-called strumous patients, subjects of catarrh, without any ozæna.

In speaking of ozæna, I mean those specific cases with the terrible odor, the large, crusty scabs, and the atrophic condition underlying; and *not* all cases with a bad odor. It is for this reason alone, if for no other, that the term ozæna should be eliminated. We shall eventually know why some cases of nasal disease are accompanied by the vile odor, if the syphilitic term is found unsatisfactory or untrue.

One of the best articles on ozæna is to be found in Burnett's *Ear, Nose, and Throat*, by Dr. J. N. Mackenzie, of Baltimore. But, unfortunately, he was compelled to stop just short of its true cause, and it still remains to be ascertained, but it can not now long deceive us. I regret that I can not offer more than the opinion that it belongs to the syphilitic form, and pathologically should show diseased bone in some of the cellular bones of the nose. I only hesitatingly advance this, but hope that it may be confirmed sufficiently often to establish its class.

It was not the purpose of this article to do more than attempt to classify the diseases of the nose, and we will leave further discussion of individual cases for a future paper. Too much emphasis can not be placed upon the advantage of universal classification, simple, comprehensive, and radical. Classification show ozæna alone without a definite class, and it is hoped we shall clear up its anatomy and pathology at once, thus bringing up a perfect classification.

32 WEST FIFTH STREET.

## Therapeutical Notes.

**Vaginal Suppositories.**—The *Journal de médecine de Paris* for September 27th gives the following formula:

R Acetanilide.....	7.5 grains:
Tannin.....	8 "
Extract of hyoscyamus.....	4 "
Sugar of milk.....	150 "

M. This is for one suppository, to be used for vaginal inflammation.

**Snuffs for Coryza.**—Lermoyez (*Traité de thérapeutique des maladies des fosses nasales*; *Therapeutische*

*Wochenschrift*, August 30, 1896) recommends the following prescription:

R Cocaine hydrochloride.....	7½ grains;
Menthol.....	4½ "
Salol.....	75 "
Boric acid.....	300 "

M. A pinch is to be taken every hour. It gives rise to an abundant flow of mucus, which is followed by relief. The following is the formula of a somewhat less irritating snuff:

R Cocaine hydrochloride.....	7½ grains;
Menthol.....	3¼ "
Bismuth salicylate, { each.....	75 "
Sugar of milk, }	

M.

**Belladonna in the Treatment of Cough.**—*Lyon médical* quotes the following formula from the *Bulletin médical de l'Algérie*:

R Infusion (1-to-400) of belladonna leaves.....	300 grains;
Antipyrine.....	15 "
Syrup of currants.....	1 ounce.

M. A teaspoonful may be given every hour to a child five years old, in whooping-cough and other paroxysmal coughs.

**The Treatment of Alopecia Areata.**—Brocq (cited in the *Wiener medizinische Blätter* for August 27) recommends the following prescription:

R Resorcin.....	3 grains;
Quinine hydrochloride.....	6 "
Vaseline.....	1 ounce.

M. This ointment is to be applied to the bald spots, but only a limited part of the surface is to be treated at one time. If the loss of hair continues, twenty drops of tincture of cantharides may be added to the ointment, or sulphur may be employed according to the following formula:

R Resorcin.....	6 grains;
Quinine hydrochloride.....	12 "
Precipitated sulphur.....	1 drachm;
Vaseline.....	1 ounce.

M. If this proves too irritating, a simple two-per-cent. ointment of boric acid may be applied after its removal. If the loss of hair is associated with seborrhœal eczema, it is often well to use mercurial ointment.

**A Vaginal Injection for Leucorrhœa.**—Lirola (*Revue internationale de médecine et de chirurgie*, September 10, 1896) recommends the following formula:

R Tannin.....	6 parts;
Alcohol, { each.....	3 "
Cresote, }	
Water.....	24 "

M. A tablespoonful is to be added to a quart of warm water, which may be injected as often as three times a day.

**A New Treatment of Cholera.**—M. Chauvin, of Liège (*Médecine moderne*, September 5, 1896; *Lyon médical*, September 27, 1896), appears to be an optimist. He thinks cholera ought to yield to this prescription:

R Dilute hydrochloric acid.....	15 grains;
German white pepsin, { each.....	23 "
Wine of opium, }	
Peppermint water.....	1,800 "
Syrup of orange peel.....	750 "

M. A "spoonful" (whether a teaspoonful or a tablespoonful is not stated) is to be given hourly until the alarming symptoms subside, then four times a day until recovery is complete.

THE

## NEW YORK MEDICAL JOURNAL,

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### THE MEXICO MEETING OF THE PAN-AMERICAN MEDICAL CONGRESS.

We have no doubt that the meeting which is to be held next month in the City of Mexico will be well attended, well conducted, and productive of much good. But it is earnestly to be wished that all these features may be manifest in a superlative degree. To that end, we hope that all American countries will be well represented, and it is especially incumbent on the physicians of our own country, we think, to be present in large numbers, for the reason, if for no other, that our Mexican brethren entered heartily and most effectively into the work of the meeting that was held in Washington three years ago. The idea of holding such congresses was conceived and first promoted in the United States, and it was certainly a graceful act for so many physicians from other American countries to fall in with the project; it would be almost rude on our part if we failed to reciprocate now to the best of our power. True, the times are hard and the trip is necessarily expensive, but there are many who can afford it, and certainly the transportation companies, both maritime and overland, appear to be taking great pains to make the journey agreeable and of reasonable expense.

But it is not by any means solely to discharge an obligation that we urge our readers to go to Mexico. They will undoubtedly find great pleasure and profit in the undertaking. The natural beauty of Mexico and its agreeable climate at this season of the year need no proclaiming, but beyond all that there is the certainty of there being much for us to learn from our neighbors. It will be very interesting, we fancy, to see how they provide for the comfort of patients under their climatic conditions, and we are much mistaken if they do not exert themselves to make their visitors practically acquainted with the great array of medicinal plants indigenous to their country and virtually confined to it. Concerning many of those plants we have but hazy and confused ideas derived from the tales of travelers, often contradictory, inconsistent, and to a great extent legendary. There may be an opportunity at the meeting to see many of these plants that we have only read of, perhaps to see some of them living. We should then surely add materially to our certain knowledge of the



materia medica and enlarge the field of our necessities. We do not wish to convey the idea, or favor its being entertained, that it is only with regard to matters peculiar to their own country that the Mexicans can add to our knowledge; they are a clever people and by no means content with studying and mastering problems affecting themselves alone. Medicine as it is cultivated in all other civilized countries, in all its branches and with all nicety and precision, is cultivated in Mexico also, by men of learning, quickness of apprehension, and soundness of judgment. We may be sure that there is much to be gained on all sides in the company of such men—a due giving and receiving, reciprocal benefit. Let nobody among us set down attendance at the meeting as a pleasure trip and nothing more; it will be that and very much more.

#### THE BILHARZIA HÆMATOBIA AS A CAUSE OF URETHRAL FISTULÆ.

Two physicians practising in Alexandria, Egypt, Dr. Trekaki and Dr. von Eichstorff, have made what is probably the first serious study of the connection between urethral fistulæ and the trematode known as the *Bilharzia hæmatobia*. They publish their account in the September number of the *Annales des organes génito-urinaires*. It contains condensed histories of seven cases of fistula due chiefly if not entirely to the parasite. In none of them was there any stricture or other obstacle to explain the production of the fistula; neither the antecedents of the patients nor the most minute urethral examinations cast any doubt on this statement. There were, however, certain periurethral encroachments on the lumen of the canal, which readily yielded before a large sound, and the authors say that the suppurating and bursting of these lesions, due to the irruption of the parasite's ova outside of the natural urinary passages, are occurrences indispensable to the development of the fistulæ.

It seems that the formation of these fistulæ is not uncommon among persons infested with the worm; during the years 1894 and 1895 a hundred and nine patients affected with the parasite were treated in the Deaconesses' hospital, of whom forty-three, or forty per cent., had urinary fistula. Most of the fistulous patients are inhabitants of the Delta of the Nile. The fistulæ are of three kinds—urethro-perineal, urethro-scrotal, and urethro-penile. These fistulæ have not thus far been observed in Europeans residing in regions where the parasite abounds, and, indeed, they are rarely affected by it.

In the surgical treatment of these fistulæ there

are two cardinal points—to clear away the indurated tissue completely and to divert the stream of urine, as practised by Mackie and Varenhorst. The patient having been anesthetized and placed in the lithotomy posture, a large grooved sound is introduced into the urethra. Then the perinæum is incised and all indurated tissue cut away. When the operator has made sure of this, he performs perineal urethrotomy. A large drainage-tube is then inserted and the perineal wound is packed with iodoform gauze. This is the procedure generally adopted and the one that best fulfills the ætiological indications.

The authors sum up as follows: 1. Among the different causes that give rise to urethral fistulæ, the *Bilharzia hæmatobia* should always be taken into account. 2. These fistulæ originate in lesions produced by the irruption of the ova of the parasite into the periurethral tissues and the formation around the ova of changes which, under certain definite conditions, give rise to one or more fistulous tracts. 3. These fistulæ are in all respects like urethral fistulæ due to gonorrhœa or other causes, and are never preceded by urethral stricture. 4. They are endemic in Egypt and are observed in forty per cent. of the fellahs affected with tropical hæmaturia caused by the *Bilharzia hæmatobia*.

#### MINOR PARAGRAPHS.

##### A CHANGE OF NAME.

THE editors of *Mathews's Medical Quarterly* announce that with the January issue of that publication its name will be changed to *Mathews's Quarterly Journal of Rectal and Gastro-intestinal Diseases*. This is a change which has been deemed necessary for some time, as it is essential that the title of a medical journal should convey to the reader an idea of its contents, and this has not been the case with its name from the beginning. There will be no change in the policy of the journal in the least. As it continues to be the only English publication devoted to the diseases and surgery of the rectum and gastro-intestinal tract, the articles which will appear in it will be limited to these subjects. The journal will continue to be edited by Dr. J. M. Mathews and Dr. Henry E. Tuley and published in Louisville.

##### THE PHOTOGRAPHER AND THE IMPENDING ATTACK OF MEASLES.

THE *Sun* lately copied from the *Rochester Democrat and Chronicle* a tale said to be vouched for by a well-known clergyman who "always has a fund of amusing yarns at his tongue's end." The story, in brief, is that a handsome woman sat for her picture to a photographer of great skill and reputation, and that, to his utter confusion and the lady's great disappointment, he could not get a tolerable likeness, although he made three attempts. The next day he got a note from the lady in which she said: "Were you to see my face to-day,

it is possible your failure of yesterday might be logically explained. It is a perfect mass of eruptions from the measles which made their appearance during the night . . . Is it possible the condition of my skin was such that the sensitive plate reproduced it?" The story goes on: "It was even as she suggested. That which was so near the surface, but had not yet penetrated the skin, was clearly brought out by the photography. In other words, the measles were [*sic*] photographed before they [*sic*] appeared." So, measly pimples form somewhere in the depths of the body and go to the surface like bubbles! How beautifully this conception would once have been held to bear out the humoral pathology!

## ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 27, 1896 :

DISEASES.	Week ending Oct. 20.		Week ending Oct. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	37	12	26	7
Scarlet fever.....	63	2	80	5
Cerebro-spinal meningitis.....	4	4	0	0
Measles.....	36	2	61	2
Diphtheria.....	142	17	175	21
Tuberculosis.....	137	110	174	101

**The Second Pan-American Medical Congress.**—Dr. H. L. E. Johnson, chairman of the transportation committee, announces the following transportation rates to the delegates and their families and friends for the meeting to be held in the City of Mexico, Mexico, on November 16th to 19th inclusive:

The New England roads have made no reduction at all in rates, and the trunk lines have made no general reduction, but have agreed to special rates from the points mentioned in their territory, viz.: From New York city to the City of Mexico and return, \$78.50; from Philadelphia and return, \$76.00; from Baltimore and return, \$73.50; from Washington and return, \$71.50. Those attending the congress from the New England States and the territory of the trunk lines east of Pittsburgh, Erie, and Buffalo, will purchase regular local tickets to the nearest point mentioned in the reductions, either New York city, Philadelphia, Baltimore, or Washington, and at either of these cities purchase the through ticket at the reduced rates to Mexico and return as above stated. Should the delegates desire to enter Mexico by one gateway, say Eagle Pass, and return via another gateway, either Laredo or El Paso, an additional charge of \$5.75 total will secure such privilege. Pullman berths from New York, Philadelphia, Baltimore, or Washington to the City of Mexico will cost \$23 each way on regular trains over any line. Delegates residing in the central traffic territory, embracing the territory from Buffalo, Pittsburgh, and Parkersburg, W. Va., in the East, to Chicago and St. Louis in the West, will be accorded a round-trip ticket to the City of Mexico over any of the lines on the payment of one first-class fare. Delegates residing in the western traffic territory will be accorded the round-trip ticket to the City of Mexico for one fare over the following roads only: Missouri Pacific, Illinois Central, Wabash, Chicago and Alton, Atchison, Topeka, and Santa Fé, Chicago, Rock Island, and Pacific, Chicago, Great Western, and Burlington, and Cedar Rapids and Northern. Delegates residing in the southern Pacific territory will be accorded the one-fare rate to the City of Mexico and return. The three Mexican lines have accorded the round trip for one first-class fare.

*The Ocean Route.*—The fare over the Ward Line for the round-trip from New York city to the City of Mexico, via Tampico, has been reduced, and for this occasion will be \$78, including meals and stateroom. The fare one

way, going or returning, including meals and berth, will be \$2. The trip either way is made in ten days. Steamer will leave New York city on November 4th; tickets good until December 31, 1896. Those desiring to go by boat and return by rail, via El Paso, will pay \$11.75. The expenses for sleeping car for one night and meals between Tampico and the City of Mexico will amount to about \$4 in American money. Returning, the sleeping car rate for a berth is \$9 Mexican silver, or \$4.50 American money, between the City of Mexico and El Paso, and \$15 American money from El Paso to New York, or arrangements may be made to return by the special train.

*Individual Trips.*—Individual trips over the B. & O., or any of the roads from Washington, D. C., to the City of Mexico and return will cost: Fare, \$71.50; Pullman berths there and return, \$46; meals both ways, \$30—total, \$147.50. \$5.75 extra through one gateway, say Eagle Pass, and returning via either Laredo or El Paso. This route is made in about six days and will require a change of cars at St. Louis, Mo., and San Antonio, Texas. The rate from New York city will be the Washington rate, plus \$7. The Philadelphia rate will be the Washington rate, plus \$4.50. The Baltimore rate will be the Washington rate, plus \$2. The Pullman charges will be the same, \$46 going and returning from these cities. Intermediate points in proportion, both fare and Pullman.

Tickets from New York and Washington over the trunk lines will be sold from November 5th to 8th, inclusive, only, at the rates mentioned above.

**The Official Train.**—Special service is arranged for with the American Tourist Association, of Chicago, under the escort of Mr. Reau Campbell, general manager, who will provide a special train of sleeping and dining cars to run through from Chicago, Cincinnati, and St. Louis to the City of Mexico and return, connecting with the B. & O. R. R. trains from points east and north. This will be the official train and route, and will run on the following special schedule:

Leave Chicago.....	Ill. Cent. R. R.	Tuesday, Nov. 10, 9 A. M.
Leave Cincinnati.....	B. & O. S. W. Ry.	Wednesday, " 10, 9 A. M.
Leave St. Louis.....	Iron Mtn. Route	Tuesday, " 10, 8 P. M.
Arrive Little Rock.....	" "	Wednesday, " 11, 8 A. M.
Leave Texarkana.....	T. & P. Ry.	Wednesday, " 11, 1 P. M.
Arrive San Antonio.....	I. & G. N. R. Ry.	Thursday, " 12, 6 A. M.
Leave San Antonio.....	S. Pac.	Thursday, " 12, 11 A. M.
Leave Eagle Pass.....	Mex. Int. R. R.	Thursday, " 12, 5 P. M.
Leave Torreon.....	Mex. Cent.	Friday, " 13, 7 A. M.
Arrive at Zacatecas.....	" "	Friday, " 13, 7 P. M.
Leave Zacatecas.....	" "	Saturday, " 14, 11 A. M.
Arrive at Aguas Calientes.....	" "	Saturday, " 14, 1 P. M.
Arrive at Silao.....	" "	Saturday, " 14, 6 P. M.
Arrive at Irapuato.....	" "	Saturday, " 14, 7 P. M.
Arrive at Querétaro.....	" "	Saturday, " 14, 10 P. M.
Arrive at City of Mexico.....	" "	Sunday, " 15, 7 A. M.

The only stops going down will be at San Antonio, Texas (where passengers from New Orleans and the South may join the special train), and at Zacatecas, Mexico. On the return stops will be made at Querétaro, Aguas Calientes, San Luis Potosí, Tampico, and Monterey, with side trips to Guadalajara and Guanajuato, if the party so desire.

The official train will start on the return trip after the close of the congress in ample time to make these stops and reach Chicago, Cincinnati, and St. Louis on December 1st, the time of the tour being twenty-one days. The itinerary will be published in the City of Mexico. The train is scheduled to go and return via St. Louis and the Iron Mountain Route. Arrangements will be made for those desiring to return via the Southern Pacific and New Orleans and Illinois Central Railroad, if notification is made before starting, and tickets are secured accordingly. The rates for the official train are as follows:

From Chicago to the City of Mexico and return.....	\$190.10
From Cincinnati " " " " " .....	189.05
From St. Louis " " " " " .....	183.55

These rates include railway and sleeping-car fares; meals in dining car; meals at hotel in the City of Mexico; special street cars at stopping places; steamer on the Panuco River from Tampico, and every necessary expense of the trip of twenty-one days; if extended, the charge will be \$4.75 a day.



for each person. A train of palace sleeping and dining cars is being specially prepared. Supplies for dining cars will be taken from Chicago. The cuisine is placed in competent hands. Waulesha water served at all meals, and wine at dinner. A double berth is assigned to each person. Man and wife have the entire section. Berths and sections reserved for the complete tour. Railroad tickets should read according to the itinerary given above and for the following roads in Mexico:

Mexican International Railway..... Eagle Pass to Torreon.  
Mexican Central Railway..... Torreon to the City of Mexico.  
Mexican Central Railway..... the City of Mexico to Tampico.  
Monterrey and Mexican Gulf Railway..... Tampico to Tuxtepec.  
Mexican International Railway..... Tuxtepec to Eagle Pass.

A rate of one fare will be made from all important points plus \$5.75 for the return via Tampico. Payment for special train accommodations may be made on the train at Chicago, Cincinnati, or St. Louis, the amount of which is \$122, when the passenger presents his round-trip railroad ticket or passage to City of Mexico. Berths and sections may be reserved by addressing Reau Campbell, General Manager, American Tourist Association, 925 Old Colony Building, Chicago, inclosing check for \$30, which will be deducted from the final payment made on the train, or returned if, for any unforeseen reason, the party can not go. Or the total amount may be remitted to Mr. Campbell, if desired, and will be returned if trip is not taken. It is advised that reservations should be made at the earliest possible moment in order that a sufficient number of sleeping and dining cars may be provided, as under no circumstances will more than two persons be assigned to a section, thus assuring perfect comfort to all. Delegates taking the special train will purchase railroad tickets from their place of residence to the City of Mexico and return at the rate of one fare, and purchase sleeping car tickets to the nearest starting point of the special train, either Chicago, Cincinnati, or St. Louis. The special train starts as scheduled, and ample time should be allowed for making connections from local or connecting trains.

Mr. Campbell will furnish the fullest information in detail, send maps, guide-books, etc., if application is made to him at 925 Old Colony Building, Chicago; also send name and address to Dr. H. L. E. Johnson, Chairman Transportation Committee, 1402 L Street, Washington, D. C., in order that he may make up an official list of the delegates and their party attending the congress from the United States. Delegates may either live on the train and take their meals in the dining car while in the City of Mexico, or secure rooms at the hotels for from \$1.50 to \$5 a day, Mexican money. Meals on the train or in the hotels are included in the price of the ticket; there are no extras whatsoever, except rooms at hotels. Before reaching the City of Mexico, the delegates should decide whether they will want rooms at hotels or will remain in the cars, that arrangements may be made ahead and rooms reserved.

**The "Official" Train to Mexico.**—Dr. Charles A. L. Reed, of Cincinnati, has been thoughtful enough to issue a circular of information in which he says that, inasmuch as the rate to the City of Mexico on the occasion of the meeting of the Pan-American Medical Congress is open to the public, a very large number of people are expected to avail themselves of it. A number of excursions on the popular plan will no doubt be arranged, some of them by persons unfamiliar with the business, and will in all probability be patronized to the point of discomfort. It was in anticipation of this that the regular committee on transportation arranged with Mr. Reau Campbell, of the American Tourist's Association, for a handsomely equipped "official" train of Pullman cars to be personally conducted by himself for the exclusive use of delegates, their families, and their friends. *This is the only "official" train, and it will leave Cincinnati on Tuesday, November 10th, at 9 A. M.* Physicians are asked to bear this in mind, that they may not be misled by representatives of mere excursion enterprises, and thus be deprived of the opportunity of traveling with their friends.

**The New York Quarantine Service.**—Among the many improvements instituted by the present health officer, Dr. Alvah H. Doty, for the rigid carrying out of quarantine

regulations, the fitting up and equipment of the steamer James W. Wadsworth is not the least in importance. The steamer has recently been supplied with the necessary apparatus for the disinfection of passengers, clothing, ships, and cargoes by steam, formaldehyde, and bichloride-of-mercury solution, and will without doubt prove an invaluable aid in arresting contagious diseases at our port entrance.

**The American Laryngological, Rhinological, and Otolological Society.**—Dr. W. Scheppgrell, the chairman of the Southern Section of the society, announces that a meeting of this section will be held in New Orleans on the 3d and 4th of March, 1897. This date has been selected in order to enable visiting members to see New Orleans during the carnival season, and to secure half-rate railroad transportation.

**The New York Obstetrical Society.**—At the annual meeting, held on October 20th, officers for the ensuing year were elected as follows: President, Dr. Robert A. Murray; vice-presidents, Dr. C. A. von Ramdohr and Dr. George W. Jarman; recording secretary, Dr. Arthur M. Jacobus; assistant recording secretary, Dr. Le Roy Brown; corresponding secretary, Dr. H. J. Boldt; treasurer, Dr. J. Lee Morrill; pathologist, Dr. G. C. Freeborn.

**St. Luke's Hospital, South Bethlehem, Pennsylvania.**—"Hospital day" was celebrated on Saturday, the 17th inst. Dr. Henry Dwight Chapin, of New York, delivered an address, and a class of nurses was graduated from the training school.

**The New York Clinical School of Medicine.**—Dr. Thomas H. Manley has been appointed professor of surgery.

**The German West Side Dispensary.**—Dr. Thomas H. Manley has been appointed a visiting surgeon.

**St. Joseph's Hospital.**—Dr. Alfons Müller has been appointed a visiting physician.

**The Death of Dr. George Harley, of London,** is announced to have taken place on Tuesday, the 27th inst. He was sixty-seven years old.

**Change of Address.**—Dr. Irwin Howell Hance, to Forrest Avenue, Lakewood, New Jersey.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 18 to October 24, 1896:*

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon. The leave of absence granted him on surgeon's certificate of disability is extended one month.

EWEN, CLARENCE, Major and Surgeon. The extension of leave of absence granted him on account of disability is further extended one month.

KIEFFER, CHARLES F., First Lieutenant and Assistant Surgeon, is granted leave of absence for two months, to take effect upon the completion of his duties with the Third Artillery.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending October 24, 1896:*

ELLIOTT, M. S., Assistant Surgeon. Ordered to the Naval Laboratory and Department of Instruction, New York.

**Society Meetings for the Coming Week:**

MONDAY, November 3d: New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; New York Medico-surgical Society; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Boston Society for Medical Improvement; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh Medical Society; Chicago Medical Society; Cleveland Medical Library Association.



**TUESDAY, November 3d:** New York Neurological Society; New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Hampden, Massachusetts, District Medical Society (Springfield); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

**WEDNESDAY, November 4th:** New York Academy of Medicine (Section in Public Health); Harlem Medical Association of the City of New York; Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

**THURSDAY, November 5th:** New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Cuyahoga, Ohio, County Medical Society.

**FRIDAY, November 6th:** Practitioners' Society of New York (private); Baltimore Clinical Society; St. Louis Academy of Medical and Surgical Sciences.

**SATURDAY, November 7th:** Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); West End Medical Society of the City of New York; St. Louis Medical Society; Miller's River, Massachusetts, Medical Society.

## Births, Marriages, and Deaths.

### Born.

**GÜNTZER.**—In New York, on Wednesday, October 21st, to Dr. and Mrs. J. Henry Güntzer, a son.

### Married.

**BISSELL—GORDON.**—In Buffalo, on Thursday, October 22d, Dr. William Grosvenor Bissell and Miss Magdalene Gordon.

**BUCKLIN—WIGGIN.**—In Providence, Rhode Island, on Wednesday, October 21st, Mr. Edward Everett Bucklin and Miss Hope Wiggin, daughter of Dr. Chase D. Wiggin, of Mystic, Connecticut.

**BUTLER—JONES.**—In Rock Hill, South Carolina, on Wednesday, October 28th, Dr. W. F. P. Butler, of Edgehill, South Carolina, and Miss Lillian Jones.

**CABOT—BLAKE.**—In Portsmouth, New Hampshire, on Tuesday, October 6th, Dr. Follen Cabot and Miss Edith Tufton Blake.

**CHASE—DAVIS.**—In Pawtucket, Rhode Island, on Wednesday, October 21st, Mr. Howard Pearson Chase and Miss Mabel Maud Davis, daughter of the late Dr. Charles E. Davis.

**EATON—POTTER.**—In Buffalo, on Wednesday, October 28th, Mr. Lewis Eaton and Miss Fanny Potter, daughter of Dr. William Warren Potter.

**PAYNE—CORPENING.**—In Clarksburg, West Virginia, on Wednesday, October 14th, Dr. John Bosworth Payne and Miss Sallie F. Corpening.

### Died.

**BERGIN.**—In Cornwall, Ontario, on Thursday, October 22d, Dr. Darby Bergin, Surgeon-General of the Canadian militia, aged seventy years.

**HOLMES.**—In Portland, Oregon, on Wednesday, October 21st, Dr. Horatio R. Holmes, aged forty years.

**JONES.**—In Baton Rouge, Louisiana, on Friday, October 23d, Dr. Joseph S. Jones, aged forty-four years.

**MCCANN.**—In Boston, on Wednesday, October 28th, Dr. Charles F. McCann, of New York.

**MARTIN.**—In Augusta, Maine, on Monday, October 26th, Dr. George W. Martin, aged sixty-two years.

**PALMER.**—In Keansburg, New Jersey, on Tuesday, October 27th, Dr. Warren W. Palmer, aged sixty-eight years.

**PEACOCKE.**—In Brooklyn, on Friday, October 16th, Beatrice N., wife of Dr. J. M. Peacocke.

## Letters to the Editor.

### ABORTING GONORRHEA.

242 WEST FORTY-THIRD STREET, NEW YORK, October 24, 1896.

To the Editor of the New York Medical Journal:

SIR: Your leading article on the Abortive Treatment of Gonorrhœa, in to-day's issue, does not show such favorable results for the copious irrigation of potassium permanganate as Goldberg, whom you quote, produced in a previous paper, which appeared in the *Centralblatt für die Krankheiten der Harn- und Sexualorgane*. In that paper Goldberg collated the opinions of all who had written, favorably or otherwise, upon the method popularized by Janet. The results obtained were:

Cured within ten days.....	60 per cent.
“ “ two weeks.....	30 “
Failed because of transgressions in Baccho et Venere.....	5 “
Unexplained failures.....	5 “

Such statistics, into which even the writings of opponents of the method enter, are certainly better than those coming from any other manner of treatment. The principal reasons for its non-adoption by the profession at large have been, to my mind:

1. The cumbersome and expensive apparatus used by Janet, Frank, of Berlin, and others.

2. The uncleanness, which required covering the patient, the operator, and office floor with rubber gowns and sheets, to protect them from the sputtering of the solution, of which I was as guilty as those to whom I owe my beginning the method.

These objections have been set aside by the apparatus described by me in the *Clinical Recorder* for February, 1896. It is cleanly and easily managed and allows dealers to make a good profit at five dollars for the complete outfit. I now know of nearly two hundred physicians in America using the improved apparatus. Every day brings a large number of letters assuring me of their favorable results. I hope to compile these into statistical form when I have the complete records of at least ten thousand cases.

The method—I am not speaking of my irrigator, which is a mere convenient simplification—certainly enables us to cure, if we will but acknowledge it, ninety-eight per cent. of our cases of gonorrhœa within two weeks. I prefer to withhold more optimistic figures for the present. But the results are encouraging not only in acute gonorrhœa. In chronic gonorrhœa, with or without complications, Oberländer's urethroscopic and dilating method has given us, until now, the most favorable results. I shall attempt to show at the Pan-American Congress that when Oberländer's treatment is combined with hydrostatic irrigations we can safely promise to cure all our patients.

I shall be pleased to demonstrate these methods of

aborting gonorrhea and treating chronic urethritis to any of the many *New York Medical Journal* readers who will favor my class with a visit on Tuesdays, Thursdays, or Saturdays (at 3 P. M.) at the New York School of Clinical Medicine, No. 328 West Forty-second Street. Should you, Mr. Editor, find time to accept this invitation, I am confident you will, as the result of your own observation, think that these statements not only seem to make a remarkably good showing, but are exactly what the faithful followers of the method assert.

FERD. C. VALENTINE, M. D.

## Proceedings of Societies.

### NEW YORK STATE MEDICAL ASSOCIATION.

*Thirteenth Annual Meeting, held in New York, on Tuesday, Wednesday, and Thursday, October 13, 14, and 15, 1896.*

The President, Dr. DARWIN COLVIN, of Wayne County, in the Chair.

**Functionless Organs—Are there Any? A Possible Use of the Appendix Vermiformis.**—Dr. NELSON L. NORTH, of Kings County, read a paper with this title. He said that it was now coming to be understood that many organs formerly looked upon as rudimentary and functionless were really part of the hematopoietic system. Thus, the tonsils, which had been so freely excised in the past, were now considered as guardians of the parts below, protecting them from the invasion of pathogenic organisms. A noteworthy example of a supposed functionless organ was to be found in the vermiform appendix, but he was of the opinion that the numerous follicles of the appendix indicated clearly that it possessed a glandular action. Probably its chief function was as an automatic closer of the ileo-cæcal valve, thus preventing the regurgitation of foul gases. A study of the vital statistics of the Brooklyn Board of Health for the past fifteen years would show a steady increase in the death-rate from appendicitis and allied diseases, from which it was fair to infer that medicine had not kept pace with surgery in the treatment of these disorders. It was probable that the trouble was to be found in an improper treatment at their inception, the medical man of the present time throwing up his hands and unconditionally surrendering his patient to the operating surgeon. The intelligent and cautious use of mild purgatives and enemata, and above all the bold use of opium, not simply for its sedative action, but for its curative effect in peritoneal diseases, would, he felt confident, make a better showing in the treatment of appendicitis.

Dr. JOHN CRONYN, of Erie County, said that if at the very beginning of an appendicitis a calomel purge was administered, an ice-bag applied to the affected region, and a liberal dose of opium given, we should hear much less of failures in the medical treatment of this condition.

Dr. WILLIAM M. BEMIS, of Chautauqua County, said that the method of treatment outlined by the last speaker had proved successful in his own hands, although he had preferred to add one more remedial measure—the use of cold-water injections.

**The President's Address.**—Medical Expert Testimony was the subject.

The address dealt with the problem of how the present defective system of taking medical testimony might be improved. The president said that nothing was more degrading than to constantly hear the medical expert speak of "our side." It was because the medical expert was employed by one side, instead of being appointed by an independent power, far removed from all criticism and connection with the parties in litigation, that so many evils had crept into the present system. Not until the medical expert was so appointed, and paid liberally by a daily allowance that would attract the best talent, would the position become the honorable one that it should be.

**Prostatic Enlargement.**—Dr. J. W. S. GOULEY, of New York County, presented the opening paper in this discussion. He enumerated, as follows, the chief morbid states giving rise to an enlargement of the prostate: (1) Acute inflammatory action; (2) chronic parenchymatous prostatitis; (3) dilatation of the prostatic sinus; (4) retention cysts; (5) tuberculosis; (6) true adenomata; (7) fibrous tumors; (8) diffuse increase of the prostatic fibrous framework; (9) circumscribed multiple myomata; and (10) diffuse increase of the muscular tissue. Tuberculosis of the prostate, he said, was rare, but when it was present was apt to greatly augment the size of the prostate. Diffuse increase of muscle tissue constituted the greater part of the substance of some hard prostates. The morphological changes were: (1) Enlargement, limited to one lobe, or involving both lobes; (2) enlargement of the lobes unequally; (3) one or both lobes projecting into the bladder; (4) one or both lobes encroaching upon the prostatic region of the urethra; (5) the posterior third of the lower isthmus alone enlarged in the form of a round, pedunculated tumor or a sessile growth; (6) the whole of the lower isthmus alone enlarged; (7) both lobes and the posterior third of the lower isthmus enlarged; (8) both lower lobes and isthmi increased; (9) enlargement of both lobes downward and backward, overlapping the seminal vesicles; (10) a mere bar at the neck of the bladder, with but little general enlargement of the prostate; (11) intramural isolated tumors; (12) multiple tumors from one or both lobes projecting into the urethra, with or without enlargement of the posterior third of the lower isthmus; and (13) multiple tumors, with or without general enlargement, sometimes springing into the bladder from the posterior third of the lower isthmus and causing incontinence of urine.

The most common form—chronic progressive enlargement of the prostate—was, he said, a disease of elderly men pre-eminently, and was present to a greater or lesser degree in about forty per cent. of all men between fifty and seventy years of age. However, only about one in six suffered serious inconvenience from its interference with urination. A careful analysis of many of these cases would not fail to demonstrate the inflammatory origin and slow development of chronic enlargement of the prostate. An important part of the treatment consisted in irrigations of the bladder, and for this purpose he preferred either a 1-to-10,000 solution of corrosive sublimate, containing one per cent. of phenol, or a 1-to-1,000 solution of formalin. Where the bladder was very foul, it should be washed out in the morning with the sublimate solution and in the evening with a very weak solution of nitrate of silver. The use of metallic catheters, either by the patient or by the physician, was condemned. Early operative interference was justifiable as prophylactic of the lesions consequent upon stagnation of urine, but was contraindicated



when the upper urinary organs were seriously damaged. An operation should be resorted to in cases in which the bladder had been permanently contracted, when catheterism was extremely difficult or followed by rigors, or when self-catheterism was not possible. The chief operations were: (1) Suprapubic cystotomy; (2) the establishment of a suprapubic fistula; (3) dilatation of a false route; and (4) capillary puncture of the bladder. These measures, while only palliative, were often of the greatest value. Dilatation of a false route should be accomplished by means of a special instrument, called an "invaginated catheter." It was usually followed by spontaneous urination for about two years, and then, although catheterism would be required, it would be much easier of performance than if the operation had not been done. Capillary puncture of the bladder might be done once in an emergency, but its repeated performance had been proved to be ill-advised. Suprapubic cystotomy was to be considered the safer method where other modes of operation were not clearly indicated. Numerous surgeons had reported excellent results from the radical operation of suprapubic prostatectomy. A new method of performing prostatectomy, and one that was particularly applicable to the early stages, when there had been but little involvement of the bladder or upper urinary organs, had been devised and performed by Dr. S. Alexander, of New York. The chief advantages alleged for his method were: (1) The combination of the infrapubic and suprapubic section for purposes of exploration as well as for enucleation; (2) the rapidity with which the operation could be performed; (3) the slight and controllable hemorrhage during and after enucleation; (4) the slight injury inflicted upon the urethra and bladder; and (5) the maintenance of suprapubic irrigation and perineal drainage. This seemingly bold operation he looked upon as the greatest and best operation ever devised for performance upon the genito-urinary organs.

Dr. SAMUEL ALEXANDER, of New York County, continued the discussion. He said that the value of catheterism depended largely on the care with which it was done, and its inapplicability to individual cases should receive early recognition by the surgeon. A radical operation was required in the following conditions: (1) When there was complete or nearly complete retention of urine, due to outgrowths of the prostate, making the person constantly dependent upon the catheter; (2) when there was a marked and continuous vesical irritability, due to intravesical outgrowths; (3) when in spite of careful catheterism the amount of residual urine steadily increased; (4) when catheterism became more and more difficult, and was frequently followed by hemorrhage; (5) when catheterism, in spite of all precautions, was frequently followed by cystitis; (6) in cases of long-continued vesical inflammation, not yielding to other treatment; and (7) when the patients could not or would not use the catheter aseptically. A radical operation in these cases should not only immediately and completely remove the obstruction to urination, but should also establish efficient drainage of the bladder, and do all this without inflicting much damage upon the prostatic urethra. The disadvantages of McGill's suprapubic method, the one commonly employed in this country, were, that the mucous membrane covering the prostatic urethra was cut through and more or less contused, that the hemorrhage was apt to be so severe as to require packing of the wound, and that a cavity was left which, being accessible to the urine, might

prove a source of septic infection. Dr. Alexander said that his own method of performing prostatectomy had been first devised and carried out in January, 1894. He had operated in this way altogether eight times, with only two deaths. In all but one of the successful cases, the ability to evacuate the bladder completely had been restored. The great danger of the operation was the failure of the kidneys to perform their function. He had found that even the completely atonied bladder was capable of regaining its tone after years of obstruction, and that in most instances voluntary micturition could be restored.

Dr. W. G. BROWNSON, of Noroton, Connecticut, detailed his palliative method of treating prostatic enlargement in the old soldiers under his care. He preferred to use for washing out the bladder a 1-to-200 or 1-to-500 solution of carbolic acid and glycerin, injecting from two to four ounces into the bladder by means of a fountain syringe and a soft catheter, and keeping up each washing until the fluid came away clear. It was rare that more than one washing a day was required, and this simple treatment served in a large proportion of cases to keep the old men cheerful and comfortable.

Dr. DOUGLAS AYRES, of Montgomery County, said that one of the early effects of prostatic enlargement was to produce more or less residual urine, and that as a consequence of the decomposition of this urine the mucous membrane of the bladder was destroyed. Dilatation of the ureters and kidneys was a later result. It was important to remember that complete retention was one of the late symptoms. If these cases were seen early, the medical adviser could do much good by regulating the bowels, prescribing moderate exercise, with mild food and drink, attending to the proper protection of the surface of the body from chilling influences, and insisting upon a regular evacuation of the bladder. The quantity of residual urine should be determined early, and if it amounted to about two ounces and was sterile, the catheter should be used. The frequency of catheterism would depend upon the quantity of residual urine. The larger sizes of soft-rubber catheter were best for self-catheterism. At first, sterilized water at 100° F. would be found useful for irrigating the bladder.

Dr. H. O. MARCY, of Boston, thought that the perineal opening should be sufficient for drainage in cases of prostatectomy without using also the suprapubic wound, as Dr. Alexander had recommended. He predicted that this operation would have a wide range of usefulness, and would prove to be a brilliant addition to surgery.

Dr. GOULEY emphasized the importance of using only the finger or a blunt instrument in enucleating the prostate.

**The Treatment of Fæcal Fistula.**—Dr. FREDERICK HOLME WIGGIN, of New York County, read a paper on this subject in which he gave the histories of three cases. Two of the patients had been operated upon previous to coming under his care, but without success. He attributed the failure of the other operative procedures chiefly to the omission to thoroughly break up the adhesions of the bowel, which by their continuance kept up more or less intestinal obstruction, and so resulted in a giving way of the sutures and a reopening of the fistula. He had been greatly aided in this difficult field of surgery by the knowledge of a means of cleansing the peritoneum and preventing septic peritonitis in cases in which the contents of the bowel accidentally escaped into the peritoneal cavity. Three years



ago he had discovered that if this accident occurred, it was only necessary to wash off the peritonæum with a fifty-per-cent. solution of hydrozone in sterilized water, and follow this with a washing with saline solution, to thoroughly cleanse and disinfect the peritonæum without irritating it.

Dr. MARCY heartily indorsed the paper, and stated that in a number of instances of this kind he had felt that it was better to let the original opening alone, making the incision in the median line and dissecting off the adhesions of the intestine to the abdominal wound. He had found it very easy to close the opening in the intestine with a double tendon suture, after which, in order to have an additional safeguard and to prevent the formation of intestinal adhesions, he reflected over it the peritonæum by what he called a "continuous parallel suture."

**Irritable Stump.**—Dr. JOSEPH D. BRYANT, of New York County, read a paper on this subject. He stated that, according to the military statistics of the late war, of 287 amputations of the leg examined five months after the operation, in twelve per cent. the stumps were still unhealed, and in fourteen per cent. they were imperfect. Of 132 amputations of the thigh, according to the same authority, there were 21 unhealed and 21 with imperfect stumps at the end of the same period. So far as he had been able to ascertain from makers of artificial limbs and from a study of the subject, the three main requisites in securing a good and useful stump were: (1) Such a length of flap that undue traction would not be made on the stump; (2) a movable cicatrix; and (3) a periosteal covering for the divided ends of the bone. The first was the most important, because, if it was attended to, the evils of the others were reduced to a minimum. Dr. Bryant then described the method which he had found satisfactory in dealing with an irritable stump in the lower third of the leg. It was, briefly, as follows: A circular flap was made in the lower third of the leg, of a length a little greater than one fourth the circumference of the limb at the point of division of the bone. This flap was reflected upward for about half an inch, and then a transverse incision was made across the subcutaneous surface of the tibia, at the line of reflection of the flap, down through the periosteum. The periosteum was also divided by an incision in the long axis of the tibia. The periosteum was then pushed up instead of being dissected up with the flap in front. In this way a portion of flap corresponding to the subcutaneous portion of the tibia was lined with periosteum, and this fell over the end of the bone when the flaps were coaptated. The tibia was divided transversely on a line with the periosteal reflection, and the fibula a quarter of an inch higher up. The flaps were coaptated obliquely on a line with the subcutaneous surface of the tibia. It was important, Dr. Bryant said, that the periosteal flap should remain connected with the superimposed tissue, otherwise it would slough away or become absorbed.

Dr. MARCY said that one very common cause of irritable stump—the presence of a neuroma—could be largely avoided by covering over the nerve with periosteum. Where the various layers of tissue were closed by separate rows of sutures, it would usually be found that the stumps were more serviceable.

**The Hindrances to the Successful Treatment of the Diseases of Infancy and Childhood.**—Dr. J. LEWIS SMITH, of New York County, presented a paper dealing with some of the popular notions and fallacies that had in-

terfered with the progress of pædiatrics. Prominent among these was the artificial importance given to dentition as a factor in the production of the diseases of infancy. Unfortunately, the medical attendant had too often encouraged this notion in order to afford a cloak for his own ignorance in the diagnosis of such diseases. It was also a matter of common occurrence for parents, under the belief that "growing pains" were a part of normal growth, to postpone seeking medical advice until, as a result of the uncontrolled rheumatic process, the little one had become affected with rheumatic endocarditis and valvular lesions. It should be kept in mind that children often experienced at first but little discomfort from an attack of rheumatism, and that for this reason its true significance was prone to be overlooked.

**The Practical Uses of Roentgen's Discovery as Applied to Surgery.**—Dr. REGINALD H. SAYRE, of New York County, presented a communication on this subject, and demonstrated some of these practical applications by projecting on a screen some X-ray photographs of surgical cases. He said that the photographs taken by means of the X-rays, like those taken by ordinary light, varied considerably with the time of exposure. Thus, a certain time would give an excellent picture of the bones of the hand, but if this exposure was more prolonged, it would be found that the bones would be more or less indistinct or even invisible. It was possible, as illustrated by some of his lantern slides, to take X-ray photographs of a fractured limb while still incased in a plaster-of-Paris bandage, thus affording the surgeon an unparalleled advantage in the proper coaptation and management of fractures. By the same means, photographs could be taken of the pelvis, illustrating the position of the head of the femur in cases of congenital dislocation of the hip, before and after operation or mechanical treatment. In cases of true bony ankylosis, the X-ray photograph would not show the gap ordinarily seen between the ends of the bones, thus enabling one to readily distinguish between true and false ankylosis. As the tarsus in young children was cartilaginous, and translucent to the X rays, not much could be learned from X-ray photographs of the clubfoot of young children.

**The Treatment of Otorrhœa, and its Importance.**—Dr. EDWARD B. DENCH, of New York County, read this paper. He said that a profuse chronic purulent discharge from the ear which had lasted for more than two months evidently came from the middle ear, and, of course, the membrana tympani would be found perforated. If the purulent discharge was scanty, it was probable that its source was the external meatus. If the discharge was serous and not very abundant, it probably came from the middle ear. While pressure in front of the tragus or traction on the auricle in the adult would elicit pain in cases of disease in the external auditory canal, this sign did not hold true in children, because in them the bony canal was absent. Where the drainage was free, the discharge would cease as soon as all necrotic tissue had been discharged. The first object in treatment should be to maintain efficient drainage, and then keep the parts aseptic. The speaker preferred syringing out the ear to the use of gauze drainage. The process of syringing could be done thoroughly only when the precaution was taken to draw the auricle outward, upward, and backward in the adult, and outward, downward, and backward in the child. Peroxide of hydrogen should not be instilled into the ear in cases of purulent otorrhœa, because the solution was irritating

and the quantity of gas liberated when it came in contact with pus was apt to cause an injurious degree of pressure within the ear. The best solution for irrigating the ear was a warm 1-to-3,000 or 1-to-5,000 solution of bichloride of mercury. The patient should be cautioned against plugging the ear with cotton in the interval between the irrigations, as this practice was very apt to result in the formation of furuncles about the meatus. All forms of powders were objectionable in the ear, as they formed hard crusts with the discharge, thus obstructing drainage and irritating the ear. In conclusion, Dr. Dench quoted statistics, showing that out of 820 cases of suppurative disease of the middle ear, 2.5 per cent. had terminated fatally.

**The Relation of Affections of the Upper Air-Passages to the Diseases of the Ear.**—Dr. FRANK S. MILBURY, of Kings County, read a paper with this title. He said that, as middle-ear disease was frequently dependent upon stenosis of the nasal passages, it followed that intranasal surgery would often improve the hearing and sometimes relieve annoying tinnitus. Atrophic rhinitis, nasopharyngeal catarrh, enlargement of the tonsils, and adenoids in the pharynx were all responsible for more or less ear disease.

(To be continued.)

## Book Notices.

*System of Surgery.* Edited by FREDERIC S. DENNIS, M. D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, etc. Assisted by JOHN S. BILLINGS, M. D., LL. D. Edin. and Harv.; D. C. L. Oxon.; Deputy Surgeon-General, U. S. A. Vol. IV. Tumors—Hernia—Surgery of the Alimentary Canal—Appendicitis—Surgery of the Liver and Biliary Passages—of the Uterus—of the Ovaries and Tubes—Gynecological Surgery—Symphysiotomy—Surgery of the Thyroid—Surgical Peculiarities of the Negro—Surgery of the Female Breast—Use of the Röntgen Rays in Surgery. Profusely Illustrated. New York and Philadelphia: Lea Brothers & Co., 1896. Pp. 7 to 970. [Price, \$6.]

The last volume of Dr. Dennis's work includes as contributors a list of celebrated writers such as has seldom if ever been found in a single volume upon surgery. The number is not large, but there is scarcely one among them who is not known in this country and in Europe as an authority upon the subjects of which he writes.

Dr. Dennis has associated with him in his opening chapter on tumors Dr. Edward K. Dunham, whose work in the Carnegie Laboratory eminently fits him to speak with authority upon the pathology of neoplasms.

Dr. Bull is assisted in the chapter upon hernias by Dr. William B. Coley, who has done much in recent years to perfect operative procedures in the treatment of these conditions. Perhaps no two men are better qualified to speak with authority upon this subject. The excellent results obtained in recent years by operations in these cases make this chapter one of great interest to both the practitioner and the student.

The chapters upon the surgery of the alimentary canal, by Dr. Richardson and Dr. Pilcher, are both

interesting and full of information, but why the two should have been separated by that upon the surgery of the spleen is not apparent to us.

"Appendicitis" is treated of by Dr. Hartley and Dr. McBurney, and this chapter needs no comment to those familiar with the literature of the subject. There are few cases of this disease ever treated, in this country at least, where Dr. McBurney's name is not mentioned in connection with the diagnostic "point" which he has established, and all readers will be glad to learn his latest opinions upon this subject.

The chapter upon the surgery of the liver and biliary passages, by Dr. Robert Abbe, is characteristic of this careful operator.

The section upon the surgery of the uterus, the ovaries, and the Fallopian tubes has most properly been assigned to gynecologists. Dr. Polk, Dr. Joseph Taber Johnson, Dr. Coe, and Dr. Lusk have contributed interesting and instructive chapters upon these subjects, and so far as the surgical part is concerned one need not go further than this volume to learn the proper procedure in any given case.

Dr. Weir has contributed a chapter on the surgery of the thyroid gland, and Dr. Matas one on the surgical peculiarities of the negro.

The volume and the work close with a discussion of the use of the Röntgen, or X, rays in surgery, by Dr. W. W. Keen.

This last volume seems to us the best of the four in Dr. Dennis's *System*, and a fitting conclusion to his monumental work. We congratulate him upon the happy outcome of his faithful and arduous labor, and commend the work to all investigators and teachers in surgery.

*The Pathology of the Contracted Granular Kidney and the Associated Cardio-arterial Changes.* By SIR GEORGE JOHNSON, M. D. Lond., F. R. C. P., F. R. S., Emeritus Professor of Clinical Medicine, etc. With Twenty-nine Illustrations. London: J. & A. Churchill, 1896. Pp. vi-62. [Price, \$1.40.]

THIS little book is the last from the pen of this well-known English writer, now deceased, in which he gives an historical summary of the long debate among pathologists on the causation of the cardio-arterial changes associated with chronic diffuse nephritis. The work has therefore a manifest historical interest, dealing as it does with the views of many old authorities most of whom are now dead. Naturally, the author writes with the intention of supporting his own views of the relation between chronic nephritis and arterial changes, and interprets the opposing arguments from his personal standpoint. Among the points specially emphasized, the following may be recalled with profit. The arterial changes of chronic nephritis are very general throughout the body, but do not affect the pulmonary vessels or the right side of the heart. The thickening of the renal arterioles is usually in the media; but of the pial vessels it is usually of the adventitia.

The term "arterio-capillary fibrosis" should be discarded, seeing that the capillaries in chronic nephritis are not affected by fibroid change. The thickening of the arterioles is not the result of inflammation, but represents a physiological hypertrophy which balances the excessive force of the left ventricle. "The pathological process in the kidney is neither primarily interstitial nor is it of the nature of inflammation, and it would be more correct to designate the cirrhotic kidney as the



atrophic granular kidney," in which the renal cells are the primary seat of the lesion.

*Occasional Papers on Medical Subjects. 1855-1896.* By W. HOWSHIP DICKINSON, M.D., F.R.C.P., President of the Royal Medical and Chirurgical Society, etc. London, New York, and Bombay: Longmans, Green, & Co., 1896. Pp. 247. [Price, \$1.]

SEVENTEEN papers written at various times during the past forty years are here brought together in one volume. The author's views and comments are very clearly put forth, and much of the interest in reading this book lies in the opportunity for comparison between the past and the present. The Practice of Medicine at St. George's Hospital Forty Years Ago gives a very vivid picture of what the patient had to contend with in those days besides disease. Mercury, antimony, bloodletting, and blisters were very common therapeutic agents. The writer concludes: "We may at least say this much for these latter days, that if he (the patient) die, he dies of the disease, not of the physician."

In one article is upheld the theory that the presystolic murmur is falsely so called, and is rarely a systolic mitral-regurgitant murmur. While this position is hardly tenable, much can be said to favor it, and the author presents a forcible argument in its behalf.

Other papers are devoted to counter-irritation, the morbid effects of alcohol as shown in patients who trade in liquor, the action of digitalis on the uterus, the pathology of chorea, hereditary albuminuria, cirrhosis of the liver in childhood, places and commonplaces in renal diseases, and the uses of alkalies in rheumatism. The book is well worth reading.

*Die Infektions-Krankheiten. Ihre Abwehr und Unterdrückung.* Von Dr. HEINRICH BERGER, Königl. Kreisphysicus in Neustadt a. Rhge. (Hannover). Braunschweig: Friedrich Vieweg und Sohn, 1896. Pp. viii-3 to 310.

In this monograph the author divides his work into two portions. The first part deals with the national, international, and local laws of quarantine against infectious diseases, the duties of boards of health, and the urgency of strict isolation in contagious diseases, and contains a discussion of the laws to secure it. The second part of the book takes up each infectious disease, with the usual clinical descriptions, but with particular reference to prophylaxis and to the prevention of the spread of the disease. Although the work is by no means noteworthy, the subjects are thoroughly treated of and discussed with evident knowledge. The book is well printed on very poor paper.

*The Stomach: Its Disorders, and how to Cure them.* By J. H. KELLOGG, M.D., President of the Medical Missionary College, Chicago. Illustrated. Battle Creek, Michigan, Chicago, New York, and London: Modern Medicine Publishing Company, 1896. Pp. 3-368.

THE author of this book intends it to be a "patient's guide" with or without the aid of a physician. We fail to see how it can possibly be useful to either. It is devoted to a description of the organs of digestion, of digestive processes, and of diseases of the stomach and their treatment. Twenty-six varieties of indigestion and their treatment are given. The treatment

includes the use of drugs, hydrotherapy, massage, diet, electricity, proper clothing, etc. We are told that many of the mixtures, appliances, and other necessities may be obtained from the Modern Medicine Company, Battle Creek, Michigan.

#### BOOKS, ETC., RECEIVED.

*A Text-book of Special Pathological Anatomy.* By Ernst Ziegler, Professor of Pathology in the University of Freiburg. Translated and edited from the Eighth German Edition by Donald MacAlister, M.A., M.D., Linacre Lecturer of Physic and Tutor of St. John's College, Cambridge, and Henry W. Cattell, M.A., M.D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections I-VIII. New York and London: The Macmillan Company, 1896. Pp. xix-575. [Price, \$4.]

*Alterations of Personality.* By Alfred Binet, Director of the Laboratory of Physiological Psychology at the Sorbonne (hautes études), Paris. Translated by Helen Green Baldwin, with Notes and a Preface by J. Mark Baldwin, Professor in Princeton University. New York: D. Appleton & Co., 1896. Pp. xii-356.

*Modern Greek Mastery. A Short Road to Ancient Greek.* By Thomas L. Stedman, A.M., M.D. New York: Harper & Brothers, 1896. Pp. viii-380.

*Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1895.* Volume XVI.

*Naturwissenschaftliche Einführung in die Bakteriologie.* Von Dr. Ferdinand Hueppe, Professor der Hygiene an der deutschen Universität zu Prag. Mit 28 Holzschnitten im Texte. Wiesbaden: C. W. Kreidel, 1896. Pp. viii-268.

*The Clinical Importance of the Examination of Fæces.* By Julius Ullman, M.D., of Buffalo. [Reprinted from the *Buffalo Medical Journal*.]

*A Case of Tumor of the Thalamus, with Remarks on the Mental Symptoms.* By Walter Channing, M.D., of Brookline, Massachusetts. [Reprinted from the *Journal of Nervous and Mental Diseases*.]

*Mental Overstrain in Education.* By G. E. Shuttleworth, M.D., of England. [Reprinted from the *Lancet*.]

*Medicine as a Profession.* By Louis Faugères Bishop, M.D. [Reprinted from the *Rutgers College Tar-gum*.]

*A Report of Thirteen Cases of Multiple Neuritis occurring among Insane Patients.* By E. D. Bondurant, M.D. [Reprinted from the *Medical News*.]

*Pitting about the Hair Cups.* By William Brown-ing, M.D. [Reprinted from the *Journal of Nervous and Mental Diseases*.]

*The Prevention of Tuberculosis.* By E. B. Borland, M.D. [Reprinted from the *Journal of the American Medical Association*.]

*Further Observations of the Treatment of Spasmodic Torticollis.* By Maurice H. Richardson, M.D., and George L. Walton, M.D., of Massachusetts. [Reprinted from the *American Journal of the Medical Sciences*.]

*Does Science need Secrecy?* By Albert Lethingwell, M.D., of Cambridge, Massachusetts. [Reprinted from the *Boston Transcript*.]

*Some Affections of the Female Bladder.* By Edgar Garceau, M.D. [Reprinted from the *Boston Medical and Surgical Journal*.]



Some Thoughts concerning Disease and Recovery in their Relation to Therapeutics. By Solomon Solis-Cohen, M. D. Annual Address delivered before the Medical and Chirurgical Faculty of Maryland.

Pædiatrics; Past, Present, and Prospective. By S. W. Kelly, M. D., of Cleveland. [Reprinted from the *Cleveland Medical Gazette*.]

Nasal Affections as a Cause of Headaches. By J. H. McCassy, M. D., of Dayton, Ohio. [Reprinted from the *Cincinnati Lancet-Clinic*.]

The Diagnosis of Substances passed from the Bowels. By George F. Laidlaw, M. D. [Reprinted from the *Chironian*.]

A Critical Study of a Few of the Changes found in the Fields of Vision, taken while the Eyes are placed at Right Angles to their Ordinary Position. By Charles A. Oliver, M. D. [Reprinted from *Brain*.]

Diagnosis of Tumors of the Brain. By J. T. Eskridge, M. D. [Reprinted from the *Colorado Medical Journal*.]

The Diagnosis of Chronic Abscess of the Brain. By J. T. Eskridge, M. D. [Reprinted from the *American Journal of the Medical Sciences*.]

The Mortality of Suicides. Published by the Mutual Life Insurance Company.

## Miscellany.

**Thymus Feeding in Exophthalmic Goitre.**—In the *British Medical Journal* for October 10th Mr. David Owen records the following case of exophthalmic goitre of twenty years' duration, in which thymus feeding was followed by restoration to health: The patient first came under observation in May, 1893. Ordinary remedies were tried, but without benefit. After he had taken raw thymus, obtained from the lamb, in doses of about a quarter of an ounce daily for three months, the cardinal symptoms disappeared, and the patient was able to work better than he had done for years. The treatment was discontinued in January, 1894. Three months later there was a return of goitre, tachycardia, and slight exophthalmia. He then resumed the thymus, taking half an ounce or more of the raw gland three or four times a week. By July, 1894, the eye symptoms and goitre had quite disappeared, the pulse was 72, though before treatment it was constantly over 120. He had greatly gained in flesh, felt quite well, and was able to work twelve hours a day as a laborer. The following autumn he found himself unable to take the gland any longer, on account of its nauseating effects. At the end of three months he complained of increasing weakness, and expressed a fear that the old disease was returning. He then again resorted to the thymus, taking it for two months, but this time with no benefit. This was very disappointing, says the author, but as he remembered that the lambing season corresponded with the spring, it occurred to him that the failure of the glands might be due to their having been taken from older sheep than before, so it was resolved to give calf's thymus a trial, as lamb's was not obtainable. On March 22, 1895, the patient was worse than he had been before, and suffered from intense dyspnoea; the thyroid was large and pulsating, and there was violent throbbing of the carotids. The action of the heart was extremely tumultuous and

irregular, and the pulse was over 140. There were marked tremors of the hands, especially the left, and the whole body was much emaciated. The same night he took about half an ounce of calf's thymus, and repeated the dose in the morning. During the following week he improved astonishingly. On March 23d he felt much better, his breathing being much relieved. On March 26th, the pulse was 126, but the action of the heart was not so thumping and irregular as before, and the dyspnoea was improved. On March 28th the patient felt still better. Exophthalmia was decidedly less marked, pulsation in the neck scarcely visible, and goitre much diminished, tremors were less pronounced, the pulse was 104, the heart quiet and more regular, and no dyspnoea. Dr. E. J. W. Carruthers, who had seen the patient just before the calf's thymus was given, on seeing him a week later, was surprised at the remarkable improvement which had taken place in so short a time. The next three months the patient spent mostly in bed, and gastro-intestinal trouble prevented him from taking the thymus, except occasionally. Still, he gradually improved, and by October, 1895, suffered only from debility and emaciation. The improvement continued during the winter, but there was a return of symptoms this summer. He now suffers from occasional palpitation, sense of weakness, and low spirits, and there is some prominence of the eyes. There are, so far, no goitre or tremors, and he is fairly well nourished. The patient is not nearly so well as he was two years ago, but it must be noted that during the last eighteen months he has taken much less thymus than before on account of its nauseating effects, and for nine months has had none at all.

Since the author's communication on this subject appeared in the *Journal*, others have published confirmatory results.

Mikulicz found that nine out of ten patients with ordinary goitre were improved by thymus, and in a case of Graves's disease he noted improvement in palpitation, dyspnoea, and attacks of threatened suffocation. The exophthalmia and tachycardia were likewise diminished, but the goitre and tremors remained the same. The dose given varied, roughly speaking, from half an ounce to an ounce of the raw gland.

Maude, whose previous writings on Graves's disease enhance the value of his testimony, has tried the thymus treatment in four cases of this disease with most gratifying results. All the patients were benefited. In one case of an extremely aggravated form, which had been under observation over eight years, no drug, not even belladonna in large doses, had ever produced any effect. Under the use of thymus tabloids (forty-five grains *per diem*) the patient rapidly improved, but always relapsed when they were discontinued. The author states that he can quite indorse Dr. Maude's observation that the tremors are particularly relieved by this treatment. This fact so impressed him a year ago that he tried fresh thymus in a case of paralysis agitans, with the result that the tremors were unmistakably benefited, and the mental state and the muscular condition were greatly improved. The patient felt so much better, and his spirits were so buoyant, last Christmas that he astonished his family by "letting in the New Year" himself, a practice which he had always observed before his illness, but had been obliged to omit for years.

C. Todd, in the *Journal* of July 25, 1896, shows clearly how a patient with this disease, who had been treated in Shoreditch Infirmary for four months with-

out benefit, was immensely improved at once by thymus tabloids. An irregular pulse became quite regular, as shown by tracings in three days, and pulse-rate was reduced from 156 to 72 in three weeks. Discontinuance of the treatment caused the pulse to become irregular again, but on resuming the thymus the irregularity ceased.

Watson Williams has recorded a case in which thymus feeding apparently aggravated the tachycardia and pyrexia, but improved the general nutrition, the body weight being increased by four pounds in a week. It is rather doubtful, says Mr. Owen, whether the aggravation of symptoms was due to the treatment, as the pulse-rate was much higher when only thirty grains *per diem* were being taken than when half an ounce was the daily dose. The temperature also reached a higher point a week after the thymus was stopped than it had done while the treatment was being carried out.

The relief obtained in these cases must have been more than a coincidence, he says, as in one of his cases and in several recorded by others, discontinuance of the use of the gland was followed by relapse, but on resuming it the patients again improved.

The thymus, spleen, and other lymphoid structures have been often found hypertrophied in this disease. Hypertrophy or "revival" of the thymus has been observed by Möbius, Marie, Johnston, Hale White, Mossler, Spencer, and several others. Joffroy asserts that the latter condition occurs almost exclusively in exophthalmic goitre.

In view of the fact, says the author, that exophthalmic goitre is probably due to excessive activity on the part of the thyroid gland, it is of interest and importance to find evidence of antagonism between it and other ductless glands. Dr. George Oliver has lately shown that the thyroid and adrenals have an opposite action to one another upon the circulation, and has found that the curve of blood pressure produced by splenic extract differs from that of thyroid. The action of the thymus has not yet, Mr. Owen believes, been investigated, but in some respects, at least, it appears to be opposed to that of the thyroid. The administration of thyroid extract is often followed by loss of weight. On the other hand, the facts that the thymus is normally present during infancy only, when for the purpose of growth the necessity of minimizing waste is obvious, and that it is persistent in hibernating animals, undergoing enlargement at the approach of each hibernation, suggests strongly that this gland has an inhibitory influence over waste. This inference is supported by Demme's case, quoted by Jacobi, of a child which underwent rapid emaciation, dying on the forty-second day. Necropsy revealed no change in any other organ except the thymus, whose tissue was dense and contained three tubercles. Further confirmation is afforded by the experience of Friedleben, who saw a dog die of exhaustion, in spite of a voracious appetite, after extirpation of the thymus and spleen. In all of the author's cases a gain of flesh accompanied the disappearance of symptoms.

Some facts also suggest the possibility of an antagonism between the thymus and thyroid in their relationship to the nervous system. The thyroïdal secretion directly or indirectly has a stimulating influence over the cerebral functions, as is shown by their undeveloped condition in cretinism, and their degeneration in myxedema and after thyroïdectomy, and also by the effects following the administration of thyroïd

extract in cases of cretinism. There are reasons, says Mr. Owen, too, for believing, as pointed out by Freund and Horsley, that the activity of the thyroid gland is increased when active changes are taking place in the sexual system. On the other hand, during hibernation, when the thymus attains its greatest size, the cerebral and sexual functions are suspended, and in infancy are undeveloped, but undergo rapid development at puberty, when the thymus finally disappears. These facts, he says, suggest a functional relationship between the different ductless glands, and lead one to think that disease may result from disturbance in the balance of their internal secretions which might be remedied by suitable animal extracts.

**The Treatment of Erysipelas with Vaseline.**—The *Therapeutic Gazette* for October 15th says that, according to the *Therapeutische Monatshefte* for June, Dr. Koester treats erysipelas in the following manner: Vaseline is applied to the affected and surrounding parts twice a day; linen is laid over the vaseline, and a mask is made if the part affected is the face. The dressing is held in place with gauze bandages. In other respects the treatment is symptomatic—acetanilide or antipyrine for severe headache, and the same remedies, or quinine, when the temperature rises above 100° F. Ice-bags are applied to the head, and laxatives, chloral, digitalis, and alcoholics used as indicated. The advantages of this method are the following: It can be used even upon the hairy scalp; smarting, burning, and disagreeable odors are avoided; and the remedy is cheap.

Koester has employed the vaseline treatment in one hundred and thirty cases and maintains that the results are just as good as with some other remedies. He goes into an elaborate comparison of the vaseline treatment with other methods, considering in this comparison the general infection, especially shown by the temperature, the local process, and the complications.

As regards the fever, his table shows that of two hundred and eighteen cases not less than two hundred and five, or more than ninety per cent., were free from fever after six days' treatment, and one hundred and fifty-eight, or more than seventy per cent., were free from fever after four days. This is a better showing than that which followed treatment with lead water, ichthyol, corrosive sublimate and vaseline, and iodine.

As regards the second consideration, the local process, it appears that in thirty-six patients treated with lead water there was further extension in twenty-five per cent.; in fifty-seven patients treated locally with iodine, extension occurred in 10.5 per cent.; in twenty patients treated with ichthyol vaseline, extension occurred in thirty-five per cent.; in sixteen patients treated with sublimate lanolin, extension occurred in 12.5 per cent.; while in one hundred and twenty-eight patients treated with vaseline alone the percentage of cases in which further extension occurred was twenty-four. Koester argues against the apparently very favorable showing for the iodine treatment; he thinks extension occurred oftener than the notes indicate.

As regards the third consideration, the occurrence of complications, the results were as follows: In four patients not subjected to any treatment, phlegmonous processes recurred in four per cent.; in thirty-five patients treated with lead water, in 8.5 per cent.; in fifty-six patients treated with iodine painting, in seven per cent.; in twenty patients treated with ichthyol vaseline, in twenty per cent.; in sixteen patients treated with sub-



limate lanolin, in 6.5 per cent.; and in one hundred and thirty patients treated with vaseline the percentage of cases in which phlegmonous processes recurred was 11.6.

Dr. Koester, says the writer, reaches no conclusion in regard to the utility of vaseline, except, of course, that it has no antiseptic properties. He believes that the principal thing in the treatment of erysipelas is the treatment of the general condition. So long as the symptoms are insignificant, regulation of diet and maintenance of strength only are demanded. If the symptoms become more violent, if the fever increases, if delirium occurs, and if the strength diminishes, then appropriate remedies should be given, and the result is generally favorable. Dr. Koester does not maintain that this treatment is a new conception. On the contrary, he states that Trousseau, Vierordt, and Struempell hold the same opinion.

**Serpent Venom and Antivenomous Serum.**—In the *British Medical Journal* for October 10th Dr. A. Calmette states that, contrary to the opinion put forward by certain physiologists up to the present time, it is perfectly certain that the venoms of different species of snakes produce physiological phenomena which are in general alike. The only difference is in the local action of these venoms, and it is possible to separate artificially the substances which produce the local phenomena from those which cause bulbar intoxication. This dissociation can be effected by means of heat. If one heats to 185° F. for fifteen minutes any venom in solution in water, the albumin contained in this water coagulates, and the thermogenic substances are destroyed, while the toxicity of the venom itself is no way affected. M. Phisalix and M. Bertrand had previously demonstrated this fact as regards the venom of the French viper.

After heating to 185° F., and after filtration, all venoms produce the same effects, whether they are taken from viperine or from colubrine snakes. They differ from one another only in the inequality of their toxic activity. All are equally destroyed by alkaline hypochlorites and by chloride of gold—substances which the author suggested (particularly hypochlorite of calcium in 1-in-60 solution) for local use in preventing the absorption of venoms.

Quite recently M. Phisalix, assistant in the Paris Museum, announced that he had succeeded in isolating a vaccine substance by filtering venom through a Chamberland filter. The animals in which this experimenter inoculated filtered venom did not die, and were found to be "vaccinated" against the inoculation of a fatal dose of unfiltered venom. The author has repeated these experiments with the greatest possible care, but the results which he has obtained are very different.

When a solution of normal venom is filtered through Chamberland's apparatus much of it is held back by the porcelain, exactly as is the case with the microbial toxins. As a matter of fact, the lethal dose of filtered venom is two and a half times that of unfiltered venom. But if, before filtration, care is taken to precipitate the albumin in the venom by means of heat, it is found that the porcelain holds back scarcely any of the toxic substance. Animals are killed by the same doses of the solution before and after filtration. It follows, then, without doubt that if non-dealbuminized venom is less toxic after filtration than before, this must be due to the fact that the albumin adheres to the porous wall of the filter, and forms an actual dialyzing membrane through which the venom can pass only with the utmost difficulty.

Dr. Calmette states that he has proved this fact by replacing the albumin by means of a little normal serum in venom dealbuminized by heat. If this albuminous venom is filtered anew it will be found that the liquid which passes through the filter is much less toxic.

Animals which have survived filtered venom can tolerate some three days later a minimal mortal dose of venom without dying. They begin to be "vaccinated," just like those into whom a dose of normal venom less than the mortal has been injected. In the author's opinion, therefore, there is no need to suppose that by heat or by filtration of venom there is, as Phisalix and Bertrand suppose, a dissociation of two substances—the one toxic, the other antitoxic—which are found together in normal venom. This hypothesis appears to him to be in no way justified, and it is absolutely certain that if venom the toxicity of which has been reduced by heat or by filtration is injected into an animal in a quantity sufficient to kill it, the course of events will be precisely the same as if it had received the dose of normal venom slightly inferior to that which would have caused death. In both cases and in the same time the animal acquires by this inoculation resisting power, which permits it, even after several days, to tolerate with impunity a quantity of venom sufficient to kill other animals of the same weight.

The serum of animals "vaccinated" against a very active kind of venom, as, for instance, that of the cobra di capello, is perfectly antitoxic in respect of the venom of all other kinds of serpents, and even, says the author, as he recently proved, in respect of that of scorpions. Dr. Calmette insists upon this statement because it has recently been contested by Dr. Cunningham, and he states that he is ready to repeat before a commission the experiments which he has made many times on this subject.

The best method of "vaccination" in large animals which are to produce antivenomous serum consists in injecting into them at first increasing quantities of the venom of the cobra di capello mixed with decreasing quantities of a 1-in-60 solution.

All the observations in which the kind of serpent has not been determined must therefore be regarded as doubtful. He has published a most conclusive case relating to an Annamite who was bitten in the hand by a cobra di capello at the bacteriological laboratory of Saigon, who was cured by a single injection of ten cubic centimetres of serum.

It is proved conclusively, therefore, continues Dr. Calmette, both by experiment upon animals, and by the applications which have already been made in man, that we possess in antivenomous serum a specific remedy which is most efficacious in cases of venomous bites, and no time should be lost in spreading it throughout all countries in which there are poisonous reptiles.

**Antistreptococcus Serum in the Treatment of Puerperal Fever.**—In the *British Medical Journal* for October 10th Mr. R. G. McKerron relates the histories of three cases in which this treatment was employed, and states as his reason for recording them that the results in all cases, whether successful or not, should be put on record in order that the true position and value of the treatment as a therapeutic agent may be established early.

The evidence in these cases, he says, is, on the whole, favorable, although the exact effect of the injections is difficult to estimate, as always in the case of a new



remedy in a disease of uncertain and variable course. Two beneficial effects uniformly followed their use—a steadying of the pulse and an improvement in the subjective condition of the patient. The results would, he is convinced, have been more satisfactory had an earlier resort to the serum been possible. Whether a large dose and greater frequency would have influenced the results must be left to increased experience to determine. In a case of puerperal fever where the serum was used, which was recorded in the *British Medical Journal* of June 20th, a single injection was sufficient to reduce the temperature permanently to normal. The serum used in all three cases was from the Pasteur Institute.

**Ambulance Dogs.**—A writer in the *Union médicale* for September 19th remarks that in the streets of the village of Lechensch, near Cologne, there may be seen a veritable battalion of dogs which have been trained for the ambulance service in view of the approaching German military manoeuvres. Each animal carries on its back a small basket provided with pockets which contain all that is necessary for use in temporary dressing, also a flask of brandy. The dogs have been taught to recognize wounded persons and to lower the basket so as to enable them, while waiting for the litter, to quench their thirst and to relieve their sufferings. A large red cross is marked on the basket, and a small lantern with a reflector for night service is strapped on to the animal. These dogs took part in the German military manoeuvres last year, when their usefulness was demonstrated. This year their instructor has been charged with the training of another pack, for which he has chosen Scotch dogs of medium size, the intelligence and docility of which are remarkable.

**Thyroid Treatment in Lichen.**—The *Gazette hebdomadaire de médecine et de chirurgie* for October 8th contains an account of a recent meeting of the Pædiatric Society of Moscow at which Dr. Kissel related the following case: The patient, a girl ten years old, presented patches of a regular spherical form, which were covered with silvery white scales. These patches were spread over the entire body, more especially on the dorsal surface of the feet and hands, and on the anterior surface of the arms and the legs. Two thyroid tablets a day were prescribed for the child. The pruritus increased at once, as well as the desquamation of the patches, which, however, became of a lighter color. Afterward, when the doses were increased to four tablets a day, headache and vomiting were observed, but no rise in temperature. The treatment was continued and the doses were increased to six tablets a day, and little by little the eruption diminished and finally completely disappeared. During this time the child took two hundred and twenty-five tablets, each of which contained two grains and a quarter of the dried thyroid gland. Apart from headache, the patient felt very well during the treatment, and her appetite was good. Her weight did not increase. The urine was thick and contained a considerable quantity of sugar, but no albumin.

**The Serum Treatment in Ozæna.**—According to the *Presse médicale* for October 10th, the *Archivio italiano di ologia*, 1896, No. 3, publishes an account of some experiments made by Arslan and Catterina with injections of antidiphtheritic serum in eight patients who suffered from ozæna. In the secretions and in the mucous membrane of the nose in every patient the authors found the Lowenberg-Abel bacillus associated with the

bacillus which has recently been described by Belfanti and Della Vedova. From the first injections it was ascertained that the serum exercised an almost specific action on the pituitary gland; the congestion of this gland and the epistaxis which followed the injections proved that. In the beginning there was an amelioration, which consisted in the diminution of the secretions and of the odor. This modification, however, was only temporary, and the patients very soon relapsed into their former condition. Up to the present time, says the writer, the authors have not observed a single case in which recovery took place, which is contrary to the observations of Belfanti and Della Vedova.

**Vegetable Milk.**—In *Lyon médical* for October 4th there is an abstract of an article from *Médecine moderne* for September 9th in which the writer states that Lachmann's vegetable milk, when prepared with the help of almonds and sugar, does not contain any starchy substances and has a sufficiently large quantity of emulsified fat. Its composition is as follows:

Fat.....	24.60 per cent;
Vegetable casein.....	7.50 "
Cane sugar.....	41.80 "
Vegetable dextrine.....	1.30 "
Lime, potassium, etc.....	0.68 "
Water.....	24.12 "

This vegetable milk may be used to dilute cow's milk which is too rich in albuminoids. For this purpose it is superior to water, as it does not precipitate the casein in large flakes, but in small and soft ones. Furthermore, the addition of vegetable milk to cow's milk increases the fatty substance of the latter and accelerates its digestion. It contains the potassium and sodium salts which are so necessary for the constitution and the development of the infantile organism.

Dr. Hock, says the writer, employed the vegetable milk in thirty-one cases in which the infants were deprived of the mother's milk, with the following results: Six of them died; in twenty-three a notable increase in weight was observed; in three the rate of increase was forty-five, seventy-five, and a hundred and five grains a day, respectively; in the rest it ranged from two hundred and twenty-five to eight hundred and fifty grains a day. Such an increase, he remarks, is met with only in well-nourished breast babies.

**Large Injections of Saline Solution in Hæmorrhages and Infections.**—In the *Gazette médicale de Paris* for September 26th there is a long and comprehensive article on this subject by M. André Chaisse, of which the following is the substance: Fresh human serum, says the author, in a sufficient quantity, is not usually at our disposal, and the serum of animals can not be used, because of its toxic properties, therefore we must resort to artificially prepared liquids. The first requisite in regard to these solutions is that they must not alter the histological elements of the blood, except in a very small degree; for this reason distilled water is rejected. One of the following solutions may be employed:

1. Distilled water..... 31 ounces;  
Sodium chloride..... 105 grains;
2. Distilled water..... 31 ounces;  
Sodium chloride, ( each..... 105 grains.  
Sodium sulphate, (

The solution should be clear and without any foreign substance; it may be sterilized by being submitted to a temperature of 248° F. or to a boiling of twenty

minutes' duration. It should be injected at the temperature of the body, and, as it loses several degrees during manipulation, it should be kept in a funnel at a temperature of about 104°.

With regard to the rapidity of the injection, says M. Claisse, it is not here a question of the rapidity of toxic action fixed by Dastre and Loyer in the rabbit and in the dog; this rapidity was established for lavage of very long duration with unusual quantities of liquid in man. In this case an injection of forty-seven ounces, with a duration of ten minutes, did not cause any symptom of intolerance; therefore the rapidity (from thirty-three to forty-five grains, or three cubic centimetres, a minute) in these conditions is not toxic. It does not seem well to inject more than forty-seven ounces at a time; the reactionary symptoms will manifest themselves with this quantity. Occasionally, however, it is necessary to renew the injection several days in succession. Lejars successfully injected as much as seven pints in seven hours and twenty-six pints in nine days. The author thinks, moreover, that these enormous quantities are not often necessary. Four pints in twenty-four hours, he says, is the maximum quantity, to which we should limit ourselves; it is especially in cases of grave acute anæmia that we are warranted in exceeding this quantity sometimes to a great degree.

The results following these large injections, says M. Claisse, in subjects who are in a condition of shock or of acute anæmia, are striking. They seem to actually bring to life the bloodless patients in whom there is hardly any pulse, with no respiration, in whom the extremities are cold, pale, and deprived of all sense of feeling. The amelioration often shows itself as soon as the first three or four ounces of the solution are injected; the pulse becomes perceptible and respiration easier. Afterward arterial pressure becomes normal, the beating of the heart is regulated, the sense of feeling returns, the lips regain their color and the eyes their brightness, and the extremities become warm, although a slight chill sometimes occurs. In certain cases, when the amelioration is only temporary, the patient relapses, and a second injection may reanimate him, sometimes definitively.

The results obtained are too numerous to recount, especially in the treatment of acute anæmia, and the author simply calls attention to the recent observations of operation shock which have been published by Lejars, Duret, and Jayle, in which the effects of intravenous or subcutaneous injections were very favorable.

With regard to their mode of action, continues M. Claisse, it may be explained very simply in cases of acute anæmia as follows: The gravity of this condition depends especially upon a more or less rapid fall of the arterial pressure, owing to the deficiency of repletion of the circulatory system; the cardiac reflex is badly excited; the heart contracts irregularly and feebly, on a vacuum, so to speak. As soon as the blood-vessels are filled the heart regains its vigor and the arterial pressure rises rapidly; everything then returns to the proper order, the anæmia of the nervous centres disappears, and all the functions become normal.

The coagulant action of the intravenous injections has been established experimentally. They act as a hæmostatic by a double mechanism; they excite constriction of the ruptured arterioles, and especially accelerate in this respect the precipitation of the hæmatoblasts, the centres of the formation of clots; that is, they contract the orifice and favor the formation of a plug.

In the infections, the mode of action is a much more

delicate question to decide, as it is still surrounded by obscurity and far from being settled. It has been attributed to elimination of the toxins and of the bacteria by some kind of mechanical action or by the emunctories, the activity of which is brought into play; a veritable lavage of the blood. In reality, says the author, the problem seems to be a very complex one. Here it is not merely simple lavage of the blood. On the one hand, the quantity of liquid employed is insufficient to allow of a comparison between this method and that employed by Dastre and Loyer in altogether different conditions; on the other hand, may there not be a similar elimination of the noxious elements; is there not really toxuria? We are tempted to think so, he says, in view of the profuse diuresis which is often established; but this polyuria (or the diarrhœa which may replace it) frequently does not appear until several hours after a manifest amelioration. Besides, it is not at all established that the eliminated urine will then be more toxic or even more charged with albuminoid substances than before.

Finally, if these injections act simply by the polyuria which is produced by the increase of the arterial pressure, we should not observe these rapid and peculiar modifications. Concerning the elevation of the arterial pressure also, it is certainly important, but it may be as much an effect as a cause of the general amelioration.

Concerning the indications for this treatment, says M. Claisse, if there is a tendency to syncope which may endanger the patient's life, consequent on profuse hæmorrhage from any serious traumatism, accidental or operative, there must be no hesitation; the best treatment is intravenous injection; it is preferred in such cases because its action is certainly more rapid. The subcutaneous injections are sufficient in less serious cases. From one and a half to two pints of liquid are employed, although with a certain amount of caution, in order to avoid a reflex visceral congestion.

In infections and grave intoxication the injections are equally indicated; when the temperature rises above 102.5° F., and this rise indicates an alarming morbid process and not a temporary reaction, especially when the general symptoms reveal a grave pathological condition, this treatment should be employed, in combination, of course, with the usual local treatment.

As to the contraindications, says M. Claisse, there are none in cases of acute anæmia or of traumatic or operative shock; it is the only method of treating efficaciously a dying person. In infections the condition of the kidneys, the heart, and the lungs must always be watched. There is, perhaps, danger in injecting suddenly a large quantity of liquid in a subject in whom the kidneys are profoundly altered, who can not eliminate the excess of water introduced, inasmuch as the vascular system is then more or less disturbed and more easily distended, and when the heart is weak. In these cases we must act slowly and cautiously, and employ preferably the subcutaneous method. If there is œdema of cardiac origin, with excessive arterial tension, it is still more necessary to exercise prudence in employing intravenous injections. In this treatment, says M. Claisse, we have an agent which, logical in theory and based on experimentation and on clinical facts, may give the most favorable results in cases which seem beyond the reach of medicines.

In the *Therapeutic Gazette* for October 15th there is an abstract of an article from the *Médecine moderne* for May 13, 1896, in which it is stated that Lejars reported



to the Société de biologie three cases in which this treatment was used by him with the most favorable results. He believes that these injections are of the utmost value, and that the great difficulty is that they are not used in sufficiently large amounts. In ordinary conditions subcutaneous injections are sufficient, but where the condition is urgent the intravenous method should be employed. It is necessary, however, for the success of the treatment that the kidneys should be able to eliminate the infectious materials with the liquids. In two cases which he knows of, the kidneys did not excrete the liquid, and at the autopsy they were found to be in a condition of sclerosis.

Osusoff, says the writer, does not believe that a complete explanation of the value of these injections can be offered, but he insists upon their practical utility.

#### Erysipelas Serum in the Treatment of Carcinoma.—

Dr. W. A. Thiele (*Annalen der russischen Chirurgie*, 1896; *Centralblatt für Chirurgie*, October 3, 1896), on the strength of four cases of his own and a case of Emmerich's in which Emmerich and Scholl's erysipelas serum was used, comes to the following conclusions: 1. Complete cure with the serum has not been demonstrated. 2. The injections are free from danger, but not from inconvenience, for they occasionally give rise to headache, weakness, fever, etc. 3. The cancerous nodules grow smaller and occasionally disappear, and ulceration is checked. 4. Where an operation is impracticable, the serum should be used, for it mitigates the pain and thus takes the place of narcotics. 5. It is very desirable that the remedy should be employed systematically in cases of incipient malignant tumors, for in this way alone can its real value be determined.

**Serum Treatment in Pulmonary Phthisis.**—In the *Progrès médical* for October 10th M. Regnier gives a detailed account of a series of seven cases in which he employed this treatment with favorable results. He also gives a table of statistics concerning the observations, including the histories of 325 patients, which were recently published by Professor Maragliano. It comprises four series divided into sections as follows: Phthisis with cavities and fever; phthisis with microbial associations; diffuse febrile destructive phthisis; and phthisis without fever. The results obtained in these cases with the serum were as follows: Remained stationary, 50; ameliorations, 140; good results, 45; no results, 25; deaths, 14.

In the microbial form and in destructive phthisis of rapid progress the results were not so good. In the apyretic form, even with cavities, the serum appears to exert a true therapeutic power, says M. Regnier, and it may be said, with M. Roger, that in proper doses it is not at all dangerous. But, with regard to its efficacy, the author thinks he may go further and say that this serum is one of the most active medicaments which we have at our disposal to combat pulmonary tuberculosis.

The same journal contains a review of an article on this subject which is published in the *Archivio internazionale di medicina e chirurgia*, 1896, page 51, by Dr. Fasano. The writer states that Dr. Fasano employed Maragliano's serum in the treatment of pulmonary phthisis in the hospital of Sainte-Marie de la Paix. The patients were carefully watched by him every day and all forms of phthisis thoroughly studied. Maragliano's method was rigorously carried out in regard to the diet, the doses, and the time of injection, and the results obtained led the author to the following conclusions: 1.

The serum is absolutely harmless and does not provoke lesions of the renal organs. 2. In certain subjects there are some cutaneous manifestations, but they disappear rapidly. 3. Occasionally the serum produces engorgement of the ganglia near the seat of injection, but this may be avoided by a rigorous antiseptic during the procedure. 4. The serum has certainly an antithermic power, which varies with the temperature and the amount of serum injected; the lower the temperature the smaller should the dose be; when the temperature is higher the dose must be increased; a thermic lowering is obtained with five cubic centimetres, but the fever does not entirely disappear until after from twenty-five to forty injections have been given, according to the individual. 5. The serum diminishes respiratory action and the frequency of the pulse, as it causes a moderated action of certain nervous centres. 6. It increases the weight, the dynamometric strength, and the appetite from the beginning of the treatment. 7. It increases respiratory power and invariably diminishes the sweats, and in certain cases causes their complete disappearance. 8. The direct changes of the bacilli take place slowly in the expectoration; in the pure forms, that is to say, without microbial associations, the disappearance and the diminution of the bacilli are more prompt, and when this condition occurs it is invariably maintained, and it is dependent upon not only the quantity of serum injected, but the duration of the treatment. 9. The daily quantity of the expectoration constantly diminishes. 10. In the forms in which râles prevail there is a drying of the broncho-pneumonic centre and finally a disappearance of the râles. 11. The serum may be considered as a remedy for the local symptomatic processes in the extensive forms with fusion, cavities, and a high temperature, or as a curative in limited and initial forms.

Dr. Fasano thinks that this serum is a remedy that all physicians should employ, especially in the beginning, when the results are more certain, as it prevents the spread of the disease.

**Proper Names in Anatomy.**—The *Nouvelles Montpelier médical* for October 10th remarks that it has already made a protest against a mania which is tending more and more to take possession of us, that of giving to organs or to diseases the names of physicians who have made them the subjects of special study. According to the altogether up-to-date nomenclature, it says, the following will be the description of the biceps flexor cubiti given by the student of the future in the lecture room: Klefman's muscle, designated by the old anatomists under the name of brachial biceps, is situated in Casew's space. At its upper extremity it is provided with two tendons of insertion, one, Fonillini's tendon, which is attached above Trombsok's cavity, the other, Mistalievichy's tendon, at the apex of Truckmann's apophysis. At its lower extremity will be found Barackus's tendon, which is inserted into Traupmann's tuberosity. This tendon is provided with Wolberg's expansion. Klefman's muscle is innervated by Apelli's nerve, which arises from Pangemaco's trunk, etc.

**The German Medical Society of the City of New York.**—At the next meeting, on Monday evening, November 2d, Dr. F. Kammerer will show a patient on whom intestinal anastomosis has been performed on account of fecal fistula; Dr. O. G. T. Kiliani will demonstrate Kruckenberg's pendulum apparatus; and there will be a discussion on cholelithiasis.



## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.

By WILLIAM OSLER, M.D.,

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE.

LECTURE VI.—PSEUDO-ANGINA PECTORIS (*continued*); THEORIES  
OF ANGINA.

(Concluded from page 573.)

1. THE STATE OF THE HEART MUSCLE.—During an attack the organ has been supposed to be either in spasm, or in a condition of paralysis, from imperfect blood supply or overdistention. Heberden, and many since, have regarded the heart in a paroxysm as in spasm or cramp; but Allan Burns, and after him Brodie (as quoted by Weber), urge against this view that the muscles in the condition following blocking of arteries are not in spasm, but rather the opposite; and, while not absolutely paralyzed, are, as Brodie says, in a state, approaching to it. With this the clinical features of the attack are in accord, for although it has been noted in exceptional instances that the pulse beat has not been feeble or the cardiac rhythm disturbed, the general experience is that the left ventricle is weakened and the systemic arteries imperfectly filled.

The condition of the heart muscle in the attack is probably not always the same. For example, in a patient with ten or fifteen paroxysms daily we can not suppose that any serious organic change, as anæmic necrosis, develops in each attack. In such, as Allan Burns says, "the supply of energy and expenditure do not balance each other"; "a heart with the coronary arteries cartilaginous or ossified can discharge its functions so long as its action is moderate and equal, but if the circulation is hurried, the progress of the blood along the nutrient arteries of the heart is impeded and the heart becomes fatigued." A transient paresis from insufficient supply of oxygenated blood (and possibly, as has been suggested, from a sort of auto-intoxication with the products of imperfect metabolism) explains the cardiac weakness and the tendency to syncope, but affords not the slightest clew to an explanation of the main feature of the attack—the pain. Very different to this *relative ischæmia* of the cardiac muscle must be the condition following the blocking of a large branch by a thrombus or an embolus. The resulting anæmic infarct, if at all extensive, must cause not alone great weakness of the cardiac muscle, but at the site of the lesion the smooth uniformity of the waves of contraction must be seriously interrupted. This cardiomalacia may lead to rupture of the wall of the ventricle (eleven cases in Huchard's collection of autopsies) or may cause pericarditis. While the anæmic infarct is a well-recognized lesion in fatal cases of angina pectoris, it must be remembered that a paroxysm of pain is really a rare com-

plication of this not infrequent change. It is interesting to note that the scars of infarcts have been found years after recovery from attacks of angina. Curschmann, in the discussion at the Congress of *innere Medizin*, already referred to, mentioned two cases, one a man of seventy-five years, the other a woman of sixty, both of whom, some twenty years before death, had had severe attacks of angina from which they recovered with bradycardia. There were found old fibroid changes in the myocardium with obliteration of branches of the left coronary arteries. We may say, then, that the evidence, such as it is, favors the view that the heart muscle in the attack is in a state of paresis. This, however, may not be general; it may be confined to the left ventricle or to a part of its wall; but weakness in itself offers not the slightest clew to the cause of the pain.

The view of Heberden that the heart muscle during the attack is in a state of spasm has been supported by many writers, notably by Latham. The existence of spasm of the heart during life can not be inferred from the empty and contracted condition of the left ventricle post mortem. Relative ischæmia in the territory of one coronary artery or of its main branch, still more an area of anæmic necrosis, might readily bring about conditions favoring cramp, not necessarily in the affected region (very unlikely, indeed, in an infarct), but in contiguous muscular districts, the rhythm of whose motion would be interrupted and disturbed. I do not know of cramp in the voluntary muscles produced under analogous conditions, but I may remind you of the horribly painful cramps in the legs in the exhaustion following the prolonged use of untrained muscles, and the cramps in the calves and feet in chronic arteriosclerosis. Pain, the special feature of the angina attack, is explained by the cramp theory. The most intense suffering which can be experienced is associated with muscular contractions of the tubular structures, as in intestinal, biliary, and renal colic, and in the contractions of the uterus in parturition. And observe that this agonizing pain is in parts not endowed, so far as we know, with very acute sensibility. Theoretically there is much in favor of the idea that in the most powerful muscular organ of the body irregular cramplike contractions, even if localized, might be accompanied by painful sensations, which could attain the maximum intensity present in an angina attack. But this brings us directly to a discussion of

II. THE SEAT AND CAUSE OF THE PAIN IN ANGINA.—There is one inexplicable feature which baffles all suggestion, and gives us pause in an uneasy apprehension lest we should know even less than we suppose. I refer to the extraordinary variability in the incidence of attacks in cardio-vascular lesions apparently most favorable. Why should true angina pectoris be so rare in hospital patients, and so rare in women? There must be some peculiar state of the nervous system, some un-

due susceptibility, as Sir Richard Quain says, which, in the presence of certain conditions, is really the essential factor. Like epilepsy, to which it has been compared by Trousseau, and more recently by B. W. Richardson, we know the signs and symptoms and can give a dull catalogue of predisposing causes, but of the intimate cause we know nothing, and can only formulate our knowledge in general statements, such as have been given in the lecture upon ætiology.

The seat of the pain is undoubtedly in the heart itself. The irradiation is a remarkable phenomenon to which we have no other exact counterpart in visceral disease—none, at any rate, which is so pronounced a feature. Anstie, Allen Sturge, and others have suggested the possibility of a central origin of the whole trouble; and I would here remind you of the interesting observation of Eichhorst that atrophy of the muscles of the ulnar side of the left hand may follow repeated attacks, which would suggest central changes in the spinal cord. Which set of nerves in the heart is chiefly involved, and what part the intrinsic ganglia play, we do not know. It has been suggested by Samson that the pain is due to involvement of the sympathetic fibres, the feeling of impending death to the influence of the vagi; which recalls to mind Laennec's opinion that when the pain was in the heart and lungs the vagi were affected, and, when there was simply a sense of stricture of the heart without difficulty of breathing, the grand sympathetic was involved. Four possible explanations of the pain may be mentioned:

(a) *Cramp of the Heart Muscle.*—In discussing the state of the heart during an attack I have spoken of this view, which has much in its favor, particularly in cases with anæmic infarct, but it seems scarcely applicable to all—for instance, to the cases with frequently recurring attacks, in which one can not possibly suppose infarcts to be present, though the scars, of course, persist. The analogy with painful spasm in other hollow organs, usually very insensitive, is also suggestive. That Heberden and Latham—still masters in Israel—stand sponsors for this view, and that so acute a modern observer as Rosenbach should conclude that the pain is due to “changes in the form of muscular contraction,” commend it strongly to our consideration.

(b) *Distention and Stretching of the Cardiac Walls.*—Traube held\* that the symptom-complex of angina pectoris resulted from a rapidly increasing distention of the walls of the ventricle, which, in consequence of defective nutrition, were more yielding. When, owing to increased pressure in the aortic system, this distention became excessive, the nerve elements in the heart wall became stretched and bruised, causing the pain. You will find a very careful elaboration of this theory by Lauder Brunton in the *Practitioner*, vol. xlviii. A paragraph in a lecture by T. K. Chambers also suggests

this idea: “The pain has the same tearing and paroxysmal character that you find accompanying the distention of hollow fibrous organs, usually insensitive, such as the stomach, the colon, and the bladder. The pain is of the same nature as that felt in overstrained tendons or muscles wearied out by sustained effort; it appears associated with the stretching of usually insensitive fibres, and is sometimes the most dreadful agony the body can bear, as the inventors of racks and other instruments of torture well knew.”\* Of course, this is a possible explanation, but it raises a problem insoluble as the original one—why, if extreme dilatation is a cause, angina does not occur more often. There must be surely some additional factor, or attacks would be of everyday occurrence. The relation of angeiospasm to the attacks will be discussed later.

(c) *That the Pain is in the Arteries.*—Allan Burns spoke of the pain following the tying of an artery and the application of a tourniquet. Sensory nerve endings have been demonstrated in the arterial walls, and it has been suggested frequently, in recent discussions on angina pectoris, that the main element of the attack may be *vessel-pain*, due to either angeiospasm or thrombosis. There may be—there is not always—great pain in the blocking of a large vessel, artery, or vein by a thrombus or embolus. The name *phlegmasia alba dolens* emphasizes a prominent character in the plugging of the femoral vein, and, as I have just said, the pain after ligation of the femoral or the application of the tourniquet is often very intense. Nothnagel refers also to the pain in the head in blocking of large cerebral vessels. It is not unreasonable to suppose that pain of the same nature may occur in blocking of the coronary arteries, though I do not call to mind the existence of special pain in embolism or thrombosis of arteries of the size of the coronary vessels in other organs. Moreover, as I have already said, we can not suppose that in each attack a thrombus develops. Angeiospasm is a much more likely cause of the pain, and it may be associated in some cases with blocking of a vessel. There are the analogous conditions of migraine with its vascular spasm and intense pain, and the vascular changes with pain in Raynaud's disease. Balfour has an interesting paragraph upon this question of pain in the arteries:

“That ischæmia does give rise to pain, even of the most atrocious character, is sufficiently attested by the agony that attends compression of an artery for aneurysm, especially at the moment the vessel becomes completely occluded; the pains, arising from a similar cause, that precede the appearance of gangrenous patches in a limb affected with senile gangrene; and those which precede, accompany, and follow attacks of local asphyxia (Raynaud's disease). There is every reason to suppose that the arterial spasm, which is so evidently the cause of local asphyxia, and which takes so

\* *Gesammelte Beiträge*, Bd. iii, p. 183.

\* *Lectures, chiefly Clinical*, fourth edition, pp. 315.

prominent a share in the production of an attack of angina vasomotoria, occasionally invades the heart, either as part of a general condition or, it may be, as a distinctly local affection, and that this is a very possible cause of those anginal attacks where no other seems obvious" (*The Senile Heart*).

(d) *That the Pain is a Neuralgia, either Functional or due to a Neuritis*.—This most widely held view regards angina pectoris as a form of neuralgia or neuritis affecting the nerves of the heart. Huchard mentions twenty-two modifications of this theory, which dates from the early part of the century, when, in 1808, Baumes ranked the disease as a retrosternal neuralgia (sternalgia). Laennec gave it his strong support and held that either the pneumogastric or sympathetic division of the cardiac nerves might be implicated, and with either of them the brachial plexus. Corrigan, Romberg, Bamberger, and others held the same opinion. Then in 1863 came the observations of Lancereaux on changes in the cardiac nerves and ganglia, which were confirmed by Peter and others. Huchard states (second edition, 1893) that there were only twelve observations on neuritis of the cardiac nerves, of which six were associated with disease of the coronary arteries. More recent literature, so far as I know, does not furnish additional cases, and the whole question of minute histological changes in the sympathetic nerves and ganglia in various disorders must be reviewed with the help of the new technique.

Against this theory may be urged the common observation that the cardiac nerves may be seriously implicated in aneurysm, in mediastinal tumors, in adherent pericardium, and in the exudate of acute pericarditis without causing the slightest pain.

Again, in the attack of angina, though the pain is a prominent feature, it is a part, and in a severe attack the minor part, of the paroxysm. The *angor animi* is something unlike anything met with in neuralgic affections. Moreover, the mode of onset following exertion or emotion is not a feature of neuralgia, and this view affords no solution of the sudden death which sometimes follows. In its paroxysmal character and radiation, and in its intensity, the pain is much more like that of biliary and renal colic; with the latter, indeed, I have heard a patient who had experienced both compare it.

Of course, the pain suffered in an attack of angina is a manifestation of disturbed function of the nerves. Such disturbance, when associated with pain, may be called neuralgic, but it is evident, from what has been stated, that there is something in addition, which puts the attack out of the category of ordinary painful affections of the nerves. There are many conditions about the heart in which the nerves are directly implicated with which neuralgia occurs. I have already told you that there is no constancy in this, and there may be old pericardial adhesions, fresh epicarditis with direct involvement of the superficial nerves, or there may be sclerosis

of the root of the aorta, aneurysm or tumor with pressure on the pneumogastric, without any pain whatever. But again, in all of these conditions there may be recurring attacks of pain about the heart, sometimes of great intensity, and even simulating that of true angina.

III. VASOMOTOR CHANGES IN ANGINA.—In Lecture III I mentioned the striking vasomotor phenomena of the attack—the pallor, the coldness, and the sweating—and in the last lecture I spoke of a special type of pseudo-angina in which these features dominated the scene. They play a conspicuous rôle both in the functional and organic forms. Naturally, one approaches a vasomotor problem with a good deal of caution, since it lends itself with singular aptness to theoretical vagaries and to all kinds of speculation. It is well to remember that, as Foster remarks, the vasomotor nerves are servants, not masters, in the matter of regulating the calibre of vessels and altering the blood pressure.

I have already spoken of the state of the arteries during the paroxysm, and have given a summary of my personal experience on this moot question. The general opinion is that in true angina there is an early angiospasm with great increase in the blood pressure. Sphygmographic tracings during the attack have not often been made. Lauder Brunton's observation is particularly interesting, and I show you here the tracings which he gives, taken from the radial pulse before and during an attack. It can not be doubted, I think, that in many cases an important factor is, as Mitchell Bruce expresses it, too much pressure ahead of the driving power, but this widespread peripheral spasm is probably a secondary phenomenon, excited reflexly through influences on the vasomotor centre coming from the heart itself or from other parts. Morrison, of whose paper in volume iii of the *Edinburgh Hospital Reports* I have already spoken, gives the notes of a patient with aortic insufficiency, in whom during an attack the pulse tension was low, and he thinks that even in the organic form there may be considerable variations, more especially in the cases with or without insufficiency of the aortic valve. It may be questioned, indeed, whether the tracing in Brunton's case really represents a great increase in the tension, or whether it does not mean that the left ventricle was in a condition of feebleness or dilatation, and the pulse tension extremely low. I show you here by way of contrast the tracings given by Huchard, in which, as you notice, the one in the interval between the attack with the low tension resembles very much that of Brunton's during the attack with supposed high tension.

A majority of patients with true angina have reached an age in which naturally the blood tension is increased, and in almost every instance the exciting causes of the paroxysm are those which raise the arterial pressure—mental emotion, muscular exertion, cold to the periphery, and dilatation of the stomach. You will find in Brunton's paper an admirable discussion of the impor-



tance of these factors in raising the blood pressure, and in bringing about the anginal paroxysm.

Favoring, too, this view of widespread angio-spasm is the circumstance that in certain cases of Raynaud's disease angina pectoris of a very severe type has occurred, and has even proved fatal. The most interesting case of this kind in the literature is reported by Richard Cleeman.\* A man, aged sixty-two years, had from his fiftieth year severe attacks of Raynaud's disease, chiefly in the hands, which occurred usually in the winter season. One day he had an attack of agonizing substernal pain lasting for two hours, and of such intensity that he was greatly prostrated. The pains radiated down both arms. During a period immediately preceding this he had had very pronounced attacks of local asphyxia and local syncope, chiefly in the hands. A week later he was found dead in bed.

The association of migraine with angina pectoris, particularly the vasomotor form, has been long recognized, and in two cases in my series the subjects had been great sufferers with this disease.

There are two possible explanations of the vasomotor phenomena of angina pectoris. In the first place a widespread vasomotor spasm, excited reflexly by cold, by emotion, by flatulence, etc., throws a great strain upon the left ventricle with, as Traube thought, distention, stretching, and consequent pain. Of course, in this widespread angiospasm the coronary vessels themselves may participate, and it is not at all improbable that in the hysterical and vasomotor varieties of angina the entire symptom-complex may be vasomotor. The possibility of a local (coronary) angiospasm may be admitted in the toxic cases and in organic disease of the coronary arteries. On the other hand, the widespread constrictor influence in the systemic arteries in an attack of true angina may itself be a vasomotor reflex. Hegar showed experimentally that a great increase in the general blood pressure could be excited reflexly on the injection of nitrate of silver into the peripheral artery of a rabbit. In the same way the pallor, coldness, sweating, and general vaso-constrictor influences in true angina may be excited reflexly by afferent impulses from the coronary vessels themselves.

One other matter remains for brief comment. What relation do the phenomena of spurious angina bear to those of the organic affection? Huchard insists upon the absolute separation of the organic form associated with coronary-artery disease from the various other types of cardiac pain. He says: "*Il n'y a pas plusieurs angines de poitrine: il n'y en a qu'une seule, l'angine coronarienne.*" According to him the pseudo-anginas are neuralgias of the cardiac plexus due to various causes, or a vasomotor neurosis. It must be acknowledged that the attacks of vasomotor angina and of the form seen in nervous and hysterical women have many

of the characters of a paroxysmal neurosis, resembling indeed in certain particulars migraine. Closely allied as no doubt many of the underlying conditions are, and simulating often the features of the genuine attack, I fully concur with Huchard and others who separate the functional from the organic form; and, while the former come very properly in the category of paroxysmal neuroses, the true angina presents features entirely unlike a neuralgia. The chief objections have been well and clearly put by Fagge: "But for a neuralgia to prove habitually fatal is without precedent. Moreover, angina pectoris differs from all neuroses in being generally, if not always, associated with the existence of organic lesions in the heart or in the great vessels, although it would seem that no one lesion is constantly present; this, at any rate, is true of the cases that destroy life. Thirdly, it is unlike a neuralgia to attack, as angina does by a large preponderance, more males than females—as many as ten men to one woman."

In the neurotic form the fundamental error appears to be a vasomotor instability, for which S. Solis-Cohen has suggested the name vasomotor ataxia, a term which really defines the condition, a loss of the power nicely to balance the distribution of blood in the vascular territories. In the organic form not only is the question much more complicated, but there are features quite inexplicable in the present state of our knowledge—notably the haphazard incidence in anatomical conditions apparently identical, the causation of the pain, and the relation of the blood pressure, cardiac, coronary, and systemic, to the phenomena of the attack.

Were the problems of blood pressure solved, angina pectoris would be an open book to us; but in spite of the unceasing work of the past thirty years much obscurity remains, with not a little dissonance and discord. The trained student among you who wishes to get upon a working basis should study the articles of Porter referred to in Lecture I, the important monograph of Roy and Adami,\* the *Heart Studies*† of Ewart, von Basch's works and his recent brochure on *Angiorrhagis*‡—these, with Tigerstedt§ as a sort of Baedeker, will promote his enlightenment. The less ambitious will be content with the lucid account in Stewart's *Physiology*, facile princeps among manuals on the subject.

**A Lotion for Tinea Versicolor.**—The *Province médicale* for October 3d gives the following formula for "aristocratic employment":

R Tincture of lavender.....	120 parts:
Corrosive sublimate.....	1 part:
Oil of lavender.....	4 parts:
Green soap.....	80 "

M. Apply the liquid to the affected part and let it dry; take a full bath at the end of three days. "*Tout est fini alors.*"

\* *Philosophical Transactions*, 1892.

† London, 1894.

‡ Vienna, 1896.

§ *Lehrbuch der Physiologie des Kreislaufes*, Leipzig, 1893.

\* *Transactions of the College of Physicians*, Philadelphia, 1892.

## Original Communications.

A CASE OF GASTROSTOMY  
PERFORMED ACCORDING TO KADER'S METHOD.

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IN No. 28 of the *Centralblatt für Chirurgie*, July 11, 1896, Dr. Bronislaw Kader, assistant to the surgical clinic of Professor Mikulicz, of Breslau, published an interesting article, A Contribution to the Technics of Gastrostomy, in which he describes a new method of his own which is a modification of the well-known Witzel's method.\*

He states that in January, 1895, he had to establish a gastric fistula in a case of cicatricial stricture of the œsophagus and of the pylorus. The stomach was exceedingly small, and movable to such a slight extent only that most of the formerly tried methods of gastrostomy could not be made use of. Also that of Witzel—which so far had been done by Professor Mikulicz almost exclusively in cases which needed gastrostomy—could not be carried out, because a rather long incision had been made through the anterior wall of the stomach for digital exploration of the interior of the latter and of the region of the pylorus. Kader therefore modified Witzel's method, and found that the functional result in this modification was just as perfect as that of the former, while the technics—which differed rather materially from Witzel's method—presented a number of advantages, viz.: it can be done in all cases, even the most difficult ones; it can be carried out faster and in a simpler manner, and is feasible even in such cases where the character of the disease necessitated, for digital exploration of the interior of the stomach, a primary incision of the anterior gastric wall, and a longer one than we need if for gastrostomy.†

For these reasons Witzel's method has lately been substituted in the Breslau Clinic by that of Kader.

The operation is carried out in the following manner: An incision three by four inches (seven by ten centimetres) long is made, penetrating skin and fascia, and parallel with the border of the left ribs, one and a half by two fingers' width distant from the same. (In a footnote, Kader states that the simpler vertical incision might also be used. I think this should be done in every instance.) A blunt division of the left rectus muscle is made for a distance of about two and a half by three inches (six to eight centimetres). The posterior sheath of the rectus muscle and the peritoneum are incised. As will be seen, this is the way von Hacker pro-

posed for penetrating the abdominal wall.\* Now a small fold of the stomach is pulled forward in the usual way, with the help of the fingers or of the forceps, or of two slings of silk which have primarily been put through the serous and muscular coats of its wall, the wound meanwhile being held apart by blunt retractors. If the stomach is movable, the fold is, of course, drawn in front of the abdominal wall, the surrounding field being packed with aseptic gauze in order to do the following steps of the operation extraperitoneally. Then a small incision is primarily made between the two slings, and a drainage-tube of about a pencil's size introduced into the stomach for a distance of about two by two and a half inches (five by six centimetres). The few spurting arteries of the gastric wall are, as usually, ligated with fine silk (or catgut). So far, the procedure is the same as in Witzel's method. The drainage-tube is at once fastened to the side of the stomach wound by a catgut stitch (Fig. 1, a).†



FIG. 1.

Then two Lembert sutures (Fig. 1, b) are put on either side of the tube in such a way that they catch and unite a portion of the surface of the stomach of about half an inch (one centimetre) width, leaving between a groove of three fourths of an inch (two centimetres) width (see Fig. 1). The two sutures on either side are about half an inch (one by one and a half centimetre) apart. By tying these sutures ("deep occlusion-sutures"), which, of course, catch the serosa and the underlying muscularis, two longitudinal folds are formed (Fig. 1, c), which turn inward the wall of the stomach in the immediate neighborhood of the tube and thus surround the latter in the shape of a narrow funnel (Fig. 1, d). Thus the drainage-tube is situated in a canal lined by serous mem-

\* *Centralblatt für Chirurgie*, 1891, No. 32, p. 601.

† I want to state here that I fail to see any reason why this latter procedure could not be done in Witzel's operation as well.

\* *Wien. med. Wochenschr.*, 1886, Nos. 31 and 32.

† The cuts reproduce those of Kader's article.

brane which does not pass the gastric wall obliquely, but enters it in a *perpendicular, straight* way. In order to lengthen this canal, two more folds of the stomach wall are stitched on top of the first ones (Fig. 2, *c'*), in

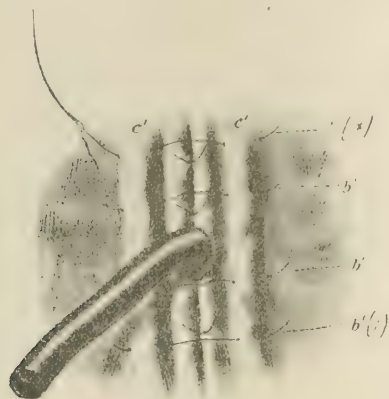


FIG. 2.

the same manner and direction as described before, again with the help of four sutures, two on either side of the tube ("superficial occlusion sutures," Fig. 2, *b'*). The outer threads of these sutures\* are not cut short, but left long in order to have a good hold on the stomach during the further manipulations. (This I learned by personal experience to be an important point.) Now the entire area of the stomach is stitched to the edges of the peritoneal wound and that of the posterior sheath of the rectus muscle, thus rendering the operating field extraperitoneal. Then the bluntly divided rectus muscle is drawn together with the help of a few stitches, the anterior sheath of the rectus muscle sutured, and the skin closed on either side of the tube by stitches.

If wanted, feeding through the tube may be begun at once.

In establishing the fistula, one has, of course, to look out that those sutures which are put in nearest the drainage-tube are put in neither too far away nor too near to the same. The stomach wall must surround the tube in a rather gentle tension. If the stomach can not be well pulled forward into the wound, Kader advises that the deep occlusion sutures be put in primarily, and that with the help of these the stomach be drawn up against the abdominal wall in order to close off the peritoneal cavity when the incision into the stomach is made.

In a case of malignant stricture of the œsophagus very near the cardia, in which I lately performed Kader's gastrostomy myself, even this was not well feasible; I therefore had to carefully surround the field of operation, inside of the abdomen, with aseptic gauze sponges,

and to open the stomach within the abdominal cavity. As the stomach was entirely empty, no juice escaped.

Kader mentions that the folds (Fig. 1, *c*, and Fig. 2, *c'*) can be made in a perpendicular as well as in a transverse direction. The former is preferable in cases where we want to establish a permanent fistula, as in cancerous stricture of the œsophagus; the latter in benign, cicatricial ones. The canal has a greater mobility in the direction toward the cardia if the folds are put in the transverse direction. This mobility will enable us to reach the cardia easier, and thus more readily carry out retrograde dilatation, etc.

If it should have become necessary to open the stomach by a larger incision primarily, in order to explore its interior with the finger, this wound is closed by Lembert's sutures up to the spot where the tube is made to enter. Thence the operation is carried out as described above.

It is of the greatest importance to have the field of operation on the stomach well lined with peritonæum—in other words, to fix the stomach firmly to the parietal peritonæum. Kader seems to do this, according to his



FIG. 3.

diagram (Fig. 3, *c'*), by sutures where the thread passes through the posterior sheath of the rectus muscle and peritonæum on the one side, then through the stomach wall, and again through the peritonæum and the posterior sheath of the rectus on the other side. In the case in which I lately operated according to Kader's method, I did this act of the operation as I have proposed in my article on Recent Methods of Gastrostomy for Stricture of the Esophagus (published in the *American Journal of the Medical Sciences*, October, 1894)—viz., by passing a silkworm-gut suture on either end of the field of operation through the entire abdominal wall, grasping on its

\* I have marked them in the cuts, Fig. 2 and Fig. 3, with X.



way the stomach wall (Fig. 3, *e*). These sutures are tied only at the end of the operation, when the skin wound is closed with silkworm gut. They hold the stomach firmly up to the abdominal parietes. I then also stitched the fascia, plus peritonæum, around the line *ee* (Fig. 3) with a running catgut suture.

With reference to the after-treatment not much can be said. From about the third to the fifth day after the operation the catgut stitch which fastened the tube to the side of the small stomach wound (Fig. 1, *a*) will have been reabsorbed. Then the tube must be pierced by a safety pin in front of the dressings and attached to the latter (Kader), or better, I believe, as I have advised (*loc. cit.*), by slipping over the tube down to the abdominal wall a short piece of the next larger size of tubing armed with two safety pins. A piece of gauze, partially incised, is pushed underneath the pins, another one with a small centre hole on top. Both are held in place by the rubber adhesive plaster straps, as used for laparotomy, or by a square piece of muslin with a small centre hole and one or two long pieces of tape on either side, which pass around the body and are tied by the patient in front. Once a week, or oftener if desired, the tube is changed to be cleansed. It must be remembered that it should not be left out for any length of time. The fistula established according to Kader's method, as well as that of Witzel's, "closes spontaneously," or after superficial cauterization, as soon as the tube is permanently removed.

In the way just described, the operation has been carried out in Mikulicz's clinic ten times (eight times by Dr. Kader and twice by Professor Mikulicz), in five patients for cancerous and in four for cicatricial stricture of the œsophagus; in one patient the latter was compressed and impassable in consequence of a perichondritis laryngis due to specific disease. The youngest patients were five and six years old. Three times the operation was done, on account of the low condition of the patient, under local cocaine anæsthesia, after Schleich's method. All ten patients recovered without any annoying accident. The elder were allowed to get up on the second, and even on the first day after the operation. One can rely absolutely on the fixation sutures which hold the stomach firmly attached to the anterior abdominal wall.

The functional result was ideal in every case. Even when the tube was removed there was no leakage whatever, no matter how the patients turned or what position they assumed. Kader thinks that a number of causes combine to produce this satisfactory result. The serous surfaces, which are sutured together, rapidly become adherent to each other and grasp the rubber tube pretty snugly. Furthermore, the position of the inner opening of the fistula, at the tip of a compressible funnel, and the pronounced folds of the mucous membrane which run toward the entrance of this funnel (see Fig. 4) prevent regurgitation of the gastric contents. Also

the sphincterlike action of the rectus muscle, surrounding the tube on its way to the surface of the abdomen, deserves mention as an agent in rendering the fistula

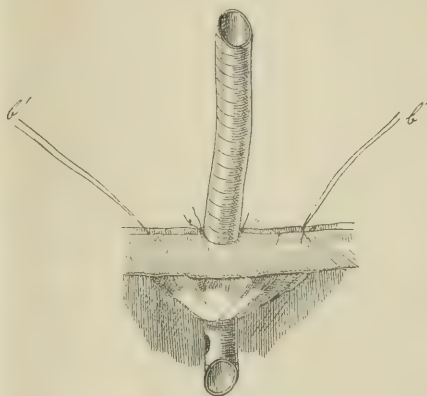


FIG. 4.

water-tight. At last, it is most probable that the fibres of the muscularis of the stomach, which surround the fistula in Kader's method in a double layer, act like a sphincter. Kader emphasizes that these same causes are underlying the good functional results obtained by Witzel's method; in other words, that it is not the oblique penetration of the fistula through the gastric wall, which makes it water-tight. As frequently observed in Mikulicz's clinic, the oblique canal later assumes a straighter direction, sometimes as early as three weeks after the operation. Yet the patency of the fistula has always remained perfect.\*

On reading Kader's article I was struck by the simplicity of the procedure, and at once resolved to carry it out in a patient, Mr. J. W., aged fifty-four years, on whom I had to do gastrostomy the following day for increasing cancerous stricture of the œsophagus, from which he had been suffering since November, 1895. The operation was performed on July 21st in the presence of Dr. A. Hadden of this city, who had, together with Dr. Max Einhorn, treated the patient before. It was carried out strictly in accordance with Kader's directions, with the exceptions mentioned above—namely, that the stomach was held up to the abdominal parietes on either end of the field of operation by a silkworm-gut stitch which penetrated the entire abdominal wall, and that the field of operation was lined by peritonæum and fascia by means of a running suture. The external wound was entirely closed by stitches, layer by layer, up to the tube. The wound healed by primary union throughout and has been water-tight from the beginning. The patient was up on the fourth day after the tube had been inserted, and left the private hospital just one week after the operation. To-day, two weeks later, the fistula proves to be just as water-tight as it was on the first day after the operation; not a drop regurgitates

\* The same phenomenon was seen in one of my patients operated upon according to Witzel's method (*American Journal of the Medical Sciences, loc. cit.*).

alongside the tube or through the canal when the tube is removed. The patient is gaining in weight.\*

Since publishing my article on Recent Methods of Gastrostomy for Stricture of the Oesophagus (*loc. cit.*), where I reported fourteen cases of this operation, done by myself, in all (viz., two according to the old Fenger's, six to von Hacker's, and three to Witzel's and Ssabanejew-Frank's method each), I have done gastrostomy in nine more patients—four times according to von Hacker and five times according to Ssabanejew-Frank—twenty-three times in all. None of the last nine patients died in consequence of the operation as such. Twice the operation (von Hacker) had to be done under cocaine, as the patient's condition did not permit of general anaesthesia.

So far as the functional result of the operation is concerned, von Hacker's method has given me a uniformly good one. Only now and then the fistula commenced leaking slightly in the course of time. Then the tube had to be replaced by one of a larger size. I should still recommend von Hacker's operation as the one which can be carried out in the easiest way, taxes the patient's strength the least, and promises, if done properly, a lasting good functional result.

I should have resorted to Witzel's operation oftener—the safest and best one so far as the question of avoiding subsequent leakage is concerned—if one could, in this method, enter the abdominal cavity by bluntly dividing the left rectus muscle. I greatly like this latter procedure when establishing a gastric fistula. Wherever, during this first part of the operation, the handle of the scalpel finds a resistance in separating the muscular fibres, a transversely running blood-vessel is met with. Two clamps are applied, and the vessel divided between them. Thus the posterior sheath of this muscle and the peritonæum are rapidly reached, without any blood having been lost, and that in a most easy and convenient way, which besides proves to be of great value to the patient in the future. For these reasons I have lately combined von Hacker's and Ssabanejew-Frank's methods. But I experienced, especially in my last case of this kind, done on July 13, 1896, that the fistula leaked in the beginning, especially right after feeding. Here a comparatively short cone of the anterior wall of the stomach could be raised only, so that the small second wound had to be made below, instead of above, the border of the left ribs. In my next case I shall twist the cone for one hundred and eighty degrees—according to Gersuny's procedure on the female urethra for incontinence

of the bladder—and then, after having pulled it underneath the bluntly undermined bridge of skin, stitch the opening of the stomach to the borders of the second small wound. Hellerich, of Greifswald, has lately done this with a most satisfactory result. I should do it even if no difficulty was encountered in raising a sufficiently long cone of the anterior stomach wall.

Witzel's operation requires a more or less oblique incision and the blunt division of at least the external and internal oblique muscles. In very muscular patients, the rectus and transversalis muscles may be encountered only; in others, a layer of three muscles may have to be separated and held apart. This sometimes proves to be a rather tedious work—certainly more tedious than to divide bluntly the left rectus muscle alone—and may require the help of an additional assistant. The lining of the operating field on the stomach with peritonæum is sometimes in Witzel's operation also not a very handy procedure, especially in robust individuals.

Kader's operation, however, combines the advantages of von Hacker's and of Witzel's method in a most convenient and ingenious way, and makes the gastric fistula water-tight by entering the stomach in a direct perpendicular line, whereas Witzel tried to obtain the same result in a rather roundabout (oblique) way.

I therefore believe that Kader's method of gastrostomy for stricture of the oesophagus will be much liked by surgeons and be rapidly introduced into the surgery of the stomach everywhere.

#### REPORT OF

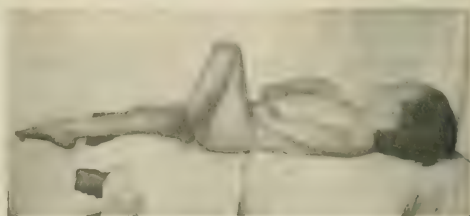
#### A CASE OF ACUTE ALCOHOLIC INTOXICATION IN A YOUNG CHILD,

FOLLOWED BY  
CONVULSIONS AND PARALYSIS OF CEREBRAL ORIGIN,  
AND BY MULTIPLE NEURITIS.\*

By C. A. HERTER, M.D.,

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CONSULTING PHYSICIAN TO THE BABIES' HOSPITAL;  
NEUROLOGIST TO THE LIVING-IN HOSPITAL.

ACUTE alcoholic intoxication is so rare an occurrence in very young children that the condition and its



December 26, 1895

consequences have as yet been but imperfectly studied. The following instance deserves to be placed on record

\* Presented at the New York Neurological Society, April, 1896.

\*The patient was presented to the Scientific Society of German Physicians on September 25th. The functional result of the operation is perfect. It was interesting to me to watch the canal immediately after the removal of the tube. If the patient had been fed just before, a certain amount of the contents of the stomach oozed out. Meanwhile the canal in its deeper portion slowly contracted (by active contraction of the muscular layer of the gastric wall?) until the opposite walls came into contact. Then all leakage ceased, no matter whether the patient coughed or pressed or took any desired posture.

as an instructive illustration of the severe and prolonged nervous disturbances that may follow a single large dose of alcohol. Although it was disappointing not to be able to determine the precise anatomical basis of these disturbances, there is some compensation in the obser-

difficulty. The bladder is apparently full. Heart negative. Spleen and liver not enlarged. Right kidney enlarged; left kidney felt.  
14th.—The patient vomited everything in the after-

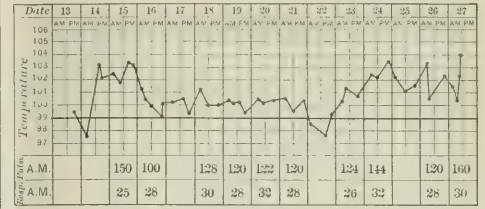


December 20, 1895.

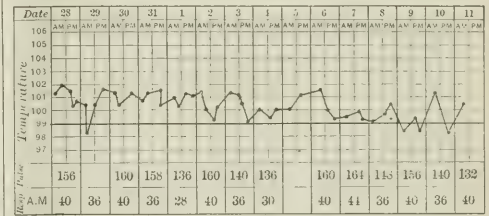
vation of the clinical fact that such grave symptoms may be followed by what is to all appearances a complete recovery:

Charlie O'N., aged three years, admitted December 13, 1895, to Dr. Holt's service in the Babies' Hospital. Father and mother healthy. One other healthy child. Patient never nursed. Has had chicken-pox; no other contagious disease. Father of patient is a barkeeper, and the child is accustomed to small drinks of whisky. Patient perfectly well until three weeks ago, when he is said to have drunk twelve ounces at least of pure whisky one afternoon. He fell at once to the floor, cried for about two minutes, then went into a stuporous condition which lasted fourteen hours. He gave evidence of intoxication, laughing and singing, dozing at times throughout the night until eight o'clock in the morning, when he had a convulsion. Previous to the convulsion there was no paralysis. The entire face twitched, and both legs were drawn up. Convulsions recurred in five or ten minutes. Patient was given a mustard bath and castor oil. He had a movement and was apparently relieved, and went to sleep for about half a day. Was in a drowsy, stupid state the greater part of the time for a week; then the effects of the whisky seemed to wear off, and he was for a time brighter. During the next ten days he was still sleepy and irritable. There was perfect motion in the extremities during these ten days, which make seventeen days from the time the whisky was taken. Four days ago he gave evidence of pain upon urinating. From the time of intoxication until four days ago he spoke at times.

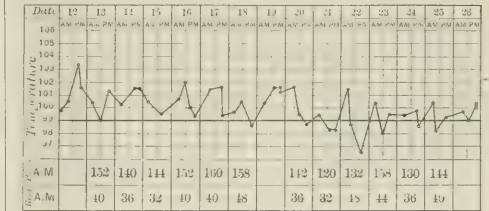
*Status Præsens, December 13, 1895.*—Both pupils respond to light. Very slight rigidity of the neck, if any. Apparently entire loss of sensation over the upper extremities. There is some apparent loss of power in the upper extremities. The feet are cold. The left leg is spastic. Sensibility is present in both lower extremities. The extensor longus pollicis is tightly contracted, lifting the great toe to nearly a right angle. The left leg is held slightly lifted from the bed. The right leg is lax and can be moved slightly. There is entire absence of patellar reflex on the right side; it is present on the left side, but diminished. Phimosis is present. Pulse, 150; temperature, 99.5°. He passes water with



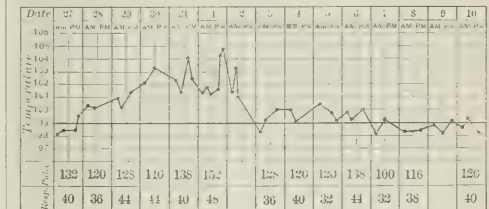
noon. Pulse 160, regular, fairly strong. Respiration 32, regular. Abdomen not retracted. Liver felt just below the border of the ribs. Spleen not felt. Since admission he has lain most of the time in a condition of semi-



stupor, making no signs for anything. Last night for a few hours he was extremely irritable. Pupils are slightly dilated, and there is slight vertical nystagmus. Very slight rigidity of the neck. The feet are dropped; knee-



jerk lost. During examination he had a convulsion lasting about ten minutes. It began in the right arm and face, then it affected the right leg, the face subsiding first. He was given chloroform for the convul-



sions, and an eighth of a grain of morphine hypodermically.

15th.—Vomiting has ceased. There is constant



drowsiness. Pulse 150, regular, fairly strong. Respiration irregular. Slight rigidity of the right hand and forearm. Pupils normal in size and respond to light.

16th.—Two slight convulsions this morning of the same character as those on December 14th. Stupor not quite so deep. Marked general rigidity, a little more marked on the left side than on the right. Very slight stiffness of neck. Pupils dilated, but respond. Abdomen slightly retracted. At 4.40 p. m. a convulsion occurred, lasting five minutes. Convulsive twitching all night. Swallowing difficult.

17th.—Rigidity continues, and is most marked on the left side. Right leg completely paralyzed. Left leg and arm weak. Pupils alternately contracted and dilated. Respiration slightly irregular. Frequent slight convulsive seizures on the left side. Continues in stupor. During the night he moans occasionally as if in pain.

18th.—Rigidity continues, but is variable. Stupor less marked. Pupils dilated. The contracture of the extensor of the great toe on the left side seems permanent.

20th.—Rigidity continues, left leg still remaining flexed.

21st.—Great restlessness during early morning.

22d.—Vomited twice.

23d.—Stupor and rigidity still more pronounced. He is fed with difficulty. At 10.30 p. m. severe general convulsion occurred, especially of the left side. Extreme conjugate deviation of the eyes to the right occurred before and during the convulsion. During the past three days there has been slight but increasing flexion of the left thigh. The leg is now so extremely flexed that the heel is fixed firmly against the buttock. The right foot is extremely extended. Both hands are tightly clinched. There is some oedema of the dorsum of the left hand. There is fibrillary twitching of the tongue. From time to time there is a rapid, coarse tremor of the left side. During the night he has little or no sleep. His head is rolled almost constantly.

24th.—Tremor continues to occur. Pulse and respiration regular, but pulse very weak. Skin covered with miliaria eruption. There is conjugate deviation of the eyes to the right.

25th.—Repeated convulsions for two hours, of the same character as before. Chloroform is necessary to control them. Left side is in tremor most of the day and night.

27th.—*Tache cérébrale* pronounced.

28th.—Has considerable cough. Signs of hypostatic pneumonia behind.

During the following week the condition of the child remained practically unchanged, except that signs of consolidation of the right lower lobe became pronounced. By January 2d the convulsions began to be less frequent and the general rigidity somewhat less. The pupils at this time were very small, equal, and did not react to light. There is slight varying strabismus. The stools continued to contain considerable mucus.

January 8th.—The patient lies in a stuporous condition, the right arm paralyzed, right leg weak, left leg in extreme contracture, and the hand in typical bird-claw-hand position. Pupils medium, about equal, react to light. Slight varying strabismus. Knee-jerks not obtainable, perhaps owing to contractures.

10th.—Mental condition somewhat improved. He can be roused.

11th.—Ophthalmoscopic examination: edges of discs

somewhat hazy; vessels radiating from disc abnormally full. No distinct signs of optic neuritis.

13th.—The child is very restless, with constant rolling of the head. Has repeated slight convulsions, chiefly on the left side. There is pronounced wrist-drop. The left wrist is extremely flexed. The right foot extended. The left foot slightly flexed.

14th.—Face and neck are flushed. On the hands and knees are numerous erythematous spots of about the size of a penny, which disappeared after a few hours. There was no marked change in the condition of the child until January 23d, when the mental condition seemed much improved for a time. He recognizes his father. Contractures unchanged. Wasted muscles are tender to pressure. Vasomotor disturbances are frequently noted, especially flushing of the face. He continues to roll the head from side to side. Pupils dilated, but respond to light. Signs of complete consolidation of the right lower lobe continue.

29th.—He vomited once at 10.30 curds and mucus.

30th.—There is a moderate purulent discharge from the right ear.

February 1st.—He was very restless during the night; coughed considerably.

2d and 3d.—The condition of the patient is bad; he has lost four pounds and four ounces since he has been under observation. He is weak and looks pale. There is considerable cough. The most striking thing about the appearance of the child are the contractures and the muscular atrophy. The right arm is rigid, slightly flexed at the elbow, and the wrist is flexed and rigid. The first phalanges are well extended, the second and third flexed. There is slight return of power in the upper arm muscles. The right thigh, leg, and foot are moderately flexed, the muscles of the anterior tibial group are completely paralyzed. The left arm and forearm are very rigid and the wrist is markedly extended. The left hand is clinched and adducted. The left thigh and leg are in extreme flexion, very difficult to extend, the thigh is adducted, and the foot extremely extended. The extremities are everywhere considerably atrophied, the wasting being more pronounced on the right side, where the forearm is one fourth of an inch smaller than the left, and the thigh three fourths of an inch smaller in circumference. There is considerable atrophy of the right dorsal interossei and muscles of ball of thumb. Knee-jerks are not obtainable. Sensibility normal. No rigidity of neck; no strabismus.

6th.—Left leg and thigh give no response in any of the muscles to a strong faradaic current. In the right leg there is no response to faradism above the knee; below the knee there is no response except in the tibialis anticus and extensor longus pollicis. No response in any of the abdominal muscles to the faradaic current. On the left side the deltoid and pectoralis major contract feebly to faradism; triceps very feebly; biceps, no reaction; extensors of wrist, fair contraction; flexors of wrist, very feeble contraction. The interossei still react on the left side. In the muscles of the ball of the hand there is very feeble contraction. Muscles of the neck are normal. Contraction of the left side of the face feeble, but distinct.

On the right side, the deltoid gives fair contraction, but rather feeble.

The pectoralis major very feeble. The triceps fair; biceps good, rather slow. Extensors of wrist, good contraction. Flexors of wrist, feeble. Supinator longus, fair reaction. Interossei, good reaction. Muscles of

hand, little finger, fair reaction. Right facial nerve and muscles, fair reaction, rather feeble.

*Upper Extremities.*—All muscles react fairly well to galvanism; some muscles rather sluggishly. In every case the cathodal closure contraction is stronger than the anodal closure contraction, but in some muscles, especially on the left side, the former is very little stronger than the latter.

*Lower Extremities.*—Leg contraction everywhere obtainable with galvanism, to some extent. Cathodal closure contractions somewhat stronger than anodal closure contractions.

The child continued to lose weight until March 2d, when he weighed five pounds and twelve ounces less than on admission. Up to this time there was occasional twitching about the eyes and mouth, and occasional vomiting. In other respects considerable improvement was noticeable at this time. The contractures were less marked, and there was considerable recovery of power in the right arm, including the hand. By March 18th some power of speech had been recovered, and from this time on recovery was rapid in every direction. By April 6th he was able to use his hands freely and to move the legs about, but was still unable to stand. The contractures had disappeared, and the muscles had begun to regain their loss of volume.

*April 28th.*—The child has apparently entirely recovered. He walks well. There is no contracture anywhere, and the measurements of corresponding parts are the same on both sides. The knee-jerks are present. The muscles everywhere react promptly to a faradaic current of moderate strength, except the left quadriceps extensor, which reacts feebly. The child speaks fairly well, but stammers very much. He is said to have stammered before the onset of this illness. He is bright and fairly intelligent, and there is no evidence that his mental condition has been impaired by his sickness. The condition of the pulse, respiration, and temperature during the illness can be seen by the accompanying record.

Briefly stated, we have here a child three years and a half old who, after a large drink of whisky, went into stupor varying in depth and lasting more than two months; had a large number of convulsions, partly general and partly limited to the left side; developed right-sided paralysis, which was especially marked in the arm; extreme contractures, especially of the left side, and loss of faradaic irritability with wasting, and during the first two months had pupillary symptoms, strabismus, and repeated vomiting. During six weeks there were the signs of complete consolidation of the right lower lobe. From December 13, 1895, until February 7, 1896, there was an irregular fever which was not usually very high.

When the patient first came under the observation of the writer it was thought doubtful whether the draught of whisky could be held responsible for the symptoms. The paralysis, the stupor, the repeated convulsions, and the fever, persisting as they did, made it likely that the case was one of meningitis, implicating especially the convexity. When strabismus, vomiting, and irregular breathing became prominent, it became difficult to resist a strong suspicion that the condition was

one of tubercular meningitis. With the development of marked contractures in the extremities, with considerable muscular atrophy, loss of knee-jerk, and tenderness of the muscles to pressure (when the mental condition was such as to permit a reaction to painful sensations), it became highly probable that the child had developed a multiple neuritis of alcoholic origin. The alcoholic origin of the symptoms was made very probable, if not certain, by reliable information (not at first obtainable) as to the quantity of whisky taken.

When the symptoms of multiple neuritis became fully developed and their dependence upon alcohol became clear, it was evident that the cerebral symptoms which marked the early stage of the illness were likewise the consequence of intoxication by alcohol.

As to the nature of the anatomical changes, which we must assume to underlie the persistent cerebral symptoms, we have no information. A somewhat extended search through the modern literature of acute alcoholic poisoning has failed to discover a similar case in which the histological findings throw light upon the conditions present in our case.

Although it is necessary to use the greatest caution in transferring to man the results obtained by the experimental study of alcoholic intoxication in lower mammalian forms, the recent observations of Berkeley\* are of considerable interest in connection with the case under discussion. This observer made a careful study, by means of the Nissl method and the silver-phospho-molybdate method, of the brains of three rabbits which had been fed during three weeks with considerable, slowly increasing doses of alcohol. All the animals showed a marked loss in weight, and two of them died in convulsions. Sections from the cortical portions of the cerebra showed that the cell bodies of the nerve cells failed to give their sticho-chromic structure. They stained imperfectly; there was beginning swelling of the nucleoli and there was swelling of the branches of certain dendrons, while in other cases the dendrites were apparently atrophic.

The axons and collaterals were not implicated in the degenerative process noted in the dendrites. The cell bodies of the vascular neuroglia cells appeared increased in size and their protoplasmic extensions were thick and knotty. In the blood-vessels pronounced changes were detected. In the arteries and intermediary vessels the nuclei of the endothelial cells were everywhere swollen and in places fragmented. The alterations in the muscular protoplasm of the vascular walls were especially distinct, and indicated that the cells were undergoing a retrogressive process. In the perivascular spaces were large numbers of leucocytes in various stages of degeneration, often a number of large granular protoplasmic bodies without nucleus, and a quantity of finely granular detritus. There seems little doubt that

\* *Journal of Nervous and Mental Disease*, April, 1896.



the alterations in the nervous structures are chiefly dependent on the vascular changes which were observed.

It is not unlikely that acute alcoholic intoxication in man gives rise to alterations in the vascular and nervous elements of the cerebral cortex similar to those just referred to. Future studies will positively determine whether this is true. It is certainly unnecessary to assume the presence of a gross cerebral lesion like meningitis to explain the symptoms in our case, and a slight cortical encephalitis would probably account for both the paralytic and the irritative manifestations. The writer recalls the case of a child with pneumonia in whom there developed a persistent paralysis, chiefly unilateral in distribution. The autopsy revealed no coarse lesion; but a microscopic examination of the motor cortex showed the presence of slight vasculitis and perivascularitis.

I am indebted to Miss Wheeler, the superintendent of the hospital, for the photographs showing the contractures of the patient.

## SURGICAL CASES

### IN DOCTOR KELSEY'S CLINIC

AT THE NEW YORK POST-GRADUATE HOSPITAL

*During the Session of 1895-'96.*

By WILLIAM DUFF BULLARD, M.D.,

FIRST ASSISTANT HOUSE SURGEON.

THE cases may, perhaps, best be divided into four groups: Rectal, Abdominal, Gynecological, and Genito-urinary.

#### RECTAL CASES.

The average time in hospital of the hæmorrhoid cases operated upon by the clamp and cautery was six days and a half. This, as is well known, is Dr. Kelsey's favorite mode of treatment, although in lecturing he lays great stress upon the technics, for, simple as the operation may seem, it is capable of yielding bad results in unskilled hands; and its very simplicity may lead those to undertake it who have not had sufficient experience. The points constantly insisted upon are the amount of tissue which should be removed and the thorough way in which the cautery should be applied.

In operating for fistula no attempt is made to divide the whole length of the tract with one incision. A director is introduced into the cutaneous opening for an inch or so, when one is present, and that part of the tract is divided. After that the tract is followed by the eye and the director inserted by the sense of touch, and nothing is cut which is not plainly in view. In this way side tracts and diverticula are noted as they diverge from the main one, and are easily followed. No unnecessary tissue is sacrificed, and no branch of the main tract is overlooked. In this way only can be explained the fact that secondary operations have so sel-

dom been necessary. Several of these cases have been very severe. In two the rectum was opened for a distance of four inches, including the anus.

In one rather remarkable case occurring in a woman there was a sinus opening in each loin, both of which ran toward the sacrum. The patient had previously been operated upon in at least two of our city hospitals without success. Both tracts were traced into one common one which led into an old abscess cavity within the pelvis just under the middle of the sacrum. It was found impossible to resect enough of that bone to drain the abscess cavity without seriously interfering with the nerve supply of the pelvis, and the cavity was therefore thoroughly curetted and stuffed with gauze. The tracts were many weeks in healing, but ultimately a perfect result was obtained.

Some of the cases of prolapsus recti were remarkable for their severity, and in two an original method of treatment was adopted. Both were old cases in which all the coats of the bowel protruded, including the peritonæum, and they had been unsuccessfully operated upon several times.

The operation consisted in opening the abdomen at about the site of the incision for left inguinal colostomy, drawing the sigmoid flexure as far out of the pelvis into the wound as possible, and fixing it to the abdominal wall by three or four silk sutures, very much as is done in the ordinary operation of ventral fixation of the uterus. The abdominal incision was then closed.

One of these cases resulted in success. In another the operation was unsuccessful and the whole prolapsus was subsequently resected as follows:

After taking great care to cleanse the mucous membrane and neighboring parts by scrubbing and irrigation with bichloride solution (1 to 500), the whole extent of the prolapsus was pulled down and held out with two or three artery forceps while the bowel was plugged above with iodoform gauze. A circular incision was then made around the anterior half of the tumor, completely through the gut, just at the muco-cutaneous junction. After bleeding vessels had been secured with artery forceps the flap thus made was dissected down to the apex of the tumor. The posterior half of the tumor was next surrounded by a similar incision, and this flap also dissected off as far as the apex. Taking the two flaps thus formed in the hand and making gentle traction, the dissection was next carried upward into the apex of the tumor till a point was reached which, after amputation of the piece thus dissected loose, would allow of approximation of the cut edge remaining to the skin incision without too great traction and without redundancy of tissue. The gut was then amputated by a circular incision, the cut edge being kept from retracting with artery forceps.

After removal of the rectum there still remained a large mass of connective tissue and fat to be removed, this being especially the case in front, and in removing



this the peritonæum was freely opened. The peritonæum was closed with fine catgut. The cut end of the rectum was united to the skin incision with interrupted catgut suture. The length of rectum amputated was five inches, and the patient did well, having no further protrusion within the year.

The value of Van Buren's old method of linear cauterization was well shown in one case of very extensive disease. The patient was a young lady, otherwise strong and well, who began to have prolapsus two years before, following an attack of diarrhœa while she was at school. For some time the condition was neglected, but for the past two years she had been constantly under treatment. The tumor was as large as a man's fist and came down always upon any exertion, coughing, or sneezing. Before resorting to amputation, as in the last case, it was decided to attempt a cure by the milder method of cauterization. The iron was applied more deeply and in many more places than is usual, at least a dozen lines being burned from apex to base of the tumor, and at the base they extended entirely through the mucous membrane. Great care was given to the after-treatment. The bowels were confined for ten days, then moved with salines and enemata, with the patient in bed. After four or five such movements the patient was allowed to get up, but for a month always had her passages while lying on a commode. At the end of nine months there has been no recurrence.

#### ABDOMINAL SURGERY.

*Colostomy.*—In all cases of colostomy Dr. Kelsey has followed the rule laid down at the commencement of the session—that of completing the operation and opening the bowel at the same time, and in no case has there been any bad result. If care is exercised to close the peritonæum carefully by sutures there seems to be no additional risk in this method, and its advantages are obvious.

In one case there was annoying prolapsus of the distal end of the gut which rendered a secondary operation advisable. This consisted in reopening the abdomen, severing the gut completely across, invaginating and dropping the distal portion, and reattaching the proximal end to the abdominal wall.

*Appendicitis.*—Nine cases of appendicitis were operated upon with uniform success. In one only was the operation done between the attacks, the others being acute cases of gangrenous appendix, and most of them with large pus cavities. Two were in children, both boys, one patient (the recurrent case operated upon after the fourth attack) being ten years old, and the other an acute pus case, the patient being slightly younger. Only in the case operated upon between the attacks could the stump of the appendix be inverted, though in several of the pus cases the stump was found, ligated, and cauterized.

The following case was of special interest:

The patient, a strong young woman, had had three attacks of appendicitis within six months, and was admitted to the hospital during the third attack with all the usual symptoms. A large abscess was opened up and thoroughly cleaned out, the stump of the appendix was found and ligatured, a counter-opening was made in the loin, and thorough drainage established. A large amount of pus drained out for the first ten days, but the wounds closed completely by granulation, and the patient left the hospital apparently cured on the thirty-fifth day.

One month later the patient complained of a sudden severe pain in the region of the right lower costal cartilages which steadily increased until she was readmitted on the ninth day. An incision was made continuing the old cicatrix upward toward the diaphragm, and about six ounces of very foul pus were evacuated from a cavity just below the diaphragm. In clearing out this cavity the stump of the appendix came into view and was found in good condition.

Evidently some focus of suppuration was left after the first operation, which resulted in the second abscess; but the time required for its development and the interval of perfect health and normal temperature were noteworthy.

Too much care indeed can not be taken in breaking down and evacuating all collections of pus at the time of the operation. This was especially commented upon by Dr. Kelsey in one case in which, on the fourth day after the operation, the temperature began to rise in spite of removal of the dressings and irrigation of the wound. The patient was immediately etherized, the wound was explored with the finger, a pocket was broken down, and several ounces more of foul pus were evacuated, after which the recovery was uninterrupted.

*Intestinal Anastomosis.*—These two cases were of interest:

The first was one of cancer of the caput coli which had been treated as a fecal impaction. On opening the abdomen it was found impossible to remove the mass, which involved several coils of intestine, and as intestinal obstruction was imminent an anastomosis was made between the small bowel above and the large bowel below the growth. An oblong Murphy's button was used. On the tenth day the patient was allowed to sit up in bed, and, contrary to directions, he attempted to stand on his feet, falling back upon the bed dead. An autopsy showed perfect coaptation of the intestine and the button still in place, hanging by a shred of gangrenous tissue.

The second case was one of cancer of the pylorus, in which the button was discarded and an anastomosis made between the stomach and the ileum by Abbe's method, slightly modified by trusting to a single instead of a double row of Lambert's sutures. The patient lived only about ten days, dying of exhaustion, and the autopsy showed perfect coaptation.

Dr. Kelsey advocates the abandonment of all mechanical contrivances for securing anastomosis and trusting entirely to suturing. The time saved by the Murphy button, he believes, is very trifling, and not at all sufficient to counterbalance the risks which have been

found to attend its use. In his case of gastro-intestinal anastomosis by Abbe's method the suturing occupied about thirty minutes, being done with no attempt at haste. Although a button would have saved several minutes of this time, all the other steps of the operation would have been the same; and with the patient quietly under ether and only the parts to be sutured exposed to the air, he does not think a few minutes more or less spent in suturing likely to make any difference in the chances of the patient, except under very exceptional circumstances.

One of the most interesting cases was that of a babe of two months, with intussusception of twenty-four hours' duration, successfully relieved by laparotomy. Dr. Wiggin, in a recent study of these cases, has found only one other on record at this age. Dr. Kelsey attributes the successful result in part to the fact that no time was spent in attempts at reduction by enemata or insufflation. The diagnosis was plain when the child was brought to the hospital, the appendix being in the rectum. Nothing had been done in the way of medication or surgical treatment, and within half an hour of its appearance the child was resting quietly in its bed after the operation.

*Hernia.*—Seven operations for the radical cure of hernia were performed, all by Bassini's method. In one case suppuration occurred. Although kangaroo tendon was generally used, the operator has no great preference for it, having fully as much confidence in strong catgut prepared and thoroughly chromicized by himself. All his suture material is, by the way, sterilized by himself, and it is very unusual for him to use chromicized gut.

*Fixation of the Kidney.*—In the two cases operated upon the method was that of Dr. Edebohl's—posterior incision along the edge of the quadratus lumborum from the last rib to the iliac crest; withdrawal of the kidney, turning back of capsule, and three silkworm sutures through the reflected capsule, substance of the kidney, muscles, and skin, with closure of the incision over a deep drain of strands of silkworm gut. In one case union was by first intention, but in the other there was a deep hæmorrhage on the fourth day, which infiltrated all the surrounding tissues and could only be stopped by opening the wound and stuffing it with gauze. One of the suspensory silkworm sutures held its place, however, in spite of this, and after the wound had granulated the operation seemed to have resulted in cure.

*Biliary Calculus.*—The patient had complained for some years of pain in the region of the gall bladder and of intestinal trouble with mucous stools. The combination of symptoms had led to various conflicting diagnoses as to the nature of a tumor of about the size of a large egg projecting from beneath the ribs on the right side. The diagnosis of obstruction of the cystic duct from calculus, complicated by an ordinary intestinal catarrh, was made by Dr. Kelsey and proved by opening the abdomen over the site of the tumor. A large

calculus was removed by making an incision in the cystic duct in which it was firmly impacted. The incision was closed by fine catgut, and the abdominal wound in the usual way. Healing occurred by first intention.

#### GYNECOLOGY.

Of the twenty-nine celiotomies done for pelvic disease in women, three were for ectopic gestation.

The first case can only be accounted for by supposing the fœtus to have escaped very early from the fimbriated extremity of the tube.

The patient was thirty-three years of age, sterile for four years. Perfectly well till one week before operation, when she had sudden and severe pain in the right inguinal region without nausea or vomiting. She remained in bed three days, but on rising found she could not bear the pressure of clothing, and that there was a spot in the right groin exquisitely sensitive to touch.

Physical examination showed a painful tumor of the size of the fist in the region of the caput coli.

The diagnosis of appendicitis and the usual incision were made. The abdominal wall over the tumor was found cedematous and the peritonæum adherent to a thick-walled cyst, which was incised and emptied of about four ounces of dark-red grumous fluid and blood clots. The cyst was detached from the abdominal wall, but was so closely adherent to the appendix that the latter was amputated and the stump inverted. It was also necessary to tie off several omental adhesions and a large appendix epiploica. The sac was then removed entire and found to have no connection with either tube or ovary, which were, to gross appearances, normal. Its fœtal character was plainly shown under the microscope. The patient made a good recovery.

In a second case, in which the fœtus was still confined to the tube, the patient also did well; but in the third the sac had ruptured on the day previous to the operation while the patient was being brought to the hospital, and again while on the table being prepared for operation. The abdomen was found full of fresh and clotted blood, and a fœtus of about six months was lying loose among the intestines. The hæmorrhage was very profuse and uncontrollable until after the placenta was torn loose from its attachments in the broad ligament. The patient died in twelve hours, and an examination of the affected tube showed two ruptures. The first had been into the broad ligament where the placenta was firmly attached; the second into the peritoneal cavity through which the fœtus had escaped.

#### GENITO-URINARY CASES.

Of these, only two were of any special interest. One was a case of obscure pain in perinæum, loins, and groins, which had reduced the sufferer to a condition of invalidism, and which was dependent upon a collection of small calculi in the seminal vesicles. A transverse incision was made between the rectum and the urethra, from one tuberosity to the other, and through it the calculi were removed. The transverse incision was found

ill adapted for the purpose, its depth and funnel-shape, with the fact that the prostate closed the small end of the funnel and prevented access to the vesicles, making the operation exceedingly difficult. For such work Dr. Kelsey strongly advised in future the regular Kraske incision.

The interest in the second case was due entirely to its negative result. It was a typical one of enlarged prostate, in which castration failed to affect in any way the size of the gland or the vesical symptoms. The patient died several weeks after the operation, and the gross and microscopic appearances of the gland were carefully noted and recorded; there was absolutely no evidence of any atrophic changes. The history of the case has already been published by Dr. Kelsey, with the microscopic report of Dr. Brooks, the pathologist.

In one hundred operations the mortality was two per cent. and the failure to obtain primary union one per cent.

#### REMARKS ON SOME OF THE PRACTICAL ASPECTS OF THE LEPROSY QUESTION IN NEW YORK.\*

By PRINCE A. MORROW, M. D.

IN arranging the programme of the evening, your president has suggested that, in view of the periodical leprosy scares in this city, an illustration of the clinical features of a disease which few physicians have had an opportunity of seeing would be of peculiar interest at the present time. As is well known, the discovery of a new case of leprosy in this city is announced in flaming headlines and with the most sensational details by the public press. Columns are filled with descriptions of the horrors and dangers of the disease. The public is panicstricken with an insane fear of its dangerous spread, which is as exaggerated as it is utterly baseless. It would seem to be the duty of the profession to endeavor to allay this hysterical excitement by a careful presentation of the facts bearing upon this question from the standpoint of scientific knowledge. It is not my purpose in the remarks with which I shall preface the exhibition of these pictures to discuss the scientific aspects of leprosy, but rather to refer briefly to some of the more practical phases of the subject.

Within the past few years leprosy has assumed a new importance in professional interest. Since the seventeenth century the disease had become practically extinct in Europe. Its rediscovery by Boeck and Danielssen in Norway, some fifty years ago, was a revelation and a surprise.

To the medical profession of the present day leprosy has all the interest of a resurrected disease. With it, unfortunately, has been resurrected the traditional hor-

ror which attached to it in olden times, and with it, still more unfortunately, have been resurrected the severe and cruel measures for its repression which were formulated in the terrible edicts of the Mosaic law. For the Levitical decree under which the leper was pronounced unclean and driven forth as an outcast from the habitations of men, modern sanitary science has substituted isolation and lifelong imprisonment.

Let us glance for a moment at the attitude of the public and the profession of this city in relation to leprosy. To the popular conception, leprosy is the most loathsome of all diseases; it represents the deepest dishonor that human flesh can suffer. The term "leprosy" has crept into our literature and stands as the synonym of all that is most foul, tainted, and unclean. The leper is regarded as the bearer of a deadly contagion, to be shunned and avoided as the pest. The announcement of the presence of a leper in any assemblage or public conveyance would cause a wild stampede of all around him. He would be driven with threats of violence from any abode or lodging house at which he sought shelter or food. We see in this a survival of that superstitious dread of the disease and that spirit of intolerance which in all ages has led society to wage a relentless war against the leper.

What is the attitude of our sanitary authorities? For several years the board of health has taken official cognizance of leprosy in this city. All lepers coming within their jurisdiction are isolated on North Brother Island. At first they were quartered in a tent on the island, as far removed as possible from the other buildings; later, a cabinlike structure was erected for their confinement. At the present time they are quarantined in one of the disused buildings for contagious diseases. This commitment is virtually an imprisonment for life, unless returned by their friends to the country from which they came.

A few years ago a Chinese leper secured by the aid of friends funds sufficient to pay his passage to China. When he reached the Pacific Coast transportation was refused him by the steamship company. He was put in a box car, some food and water were thrown in, and he was shipped back to New York. The car was detached and detained at various points; it wandered through southern California and Mexico back to our borders, and finally, after indescribable suffering, the man was returned to New York. Can any one deny that every principle of common decency and humanity was violated in this case?

At the same time numbers of consumptives were transported back and forth across the continent, making use of the public conveyances and hotels without let or hindrance; and yet, any one of these consumptives was the bearer of a contagion infinitely more destructive to human life than the occupant of the box car. Why should we, from the standpoint of protection to the public health, quarantine the leper and not the consump-

\* Read before the Medical Society of the County of New York, with the exhibition of thirty lantern slides illustrative of leprosy and other diseases, Monday, October 26, 1896.



tive? Is it not a curious commentary upon the operation of our sanitary laws that thousands of tuberculous patients are permitted, within the safe precincts of their homes, in public conveyances, and on public thoroughfares, to scatter broadcast the seeds of a disease which slays its hundreds of thousands every year in this country, while public sentiment demands that every leper should be seized and incarcerated?

The mortuary statistics of this city for the last ten years show 51,718 deaths from phthisis and 9,434 deaths from other tuberculous diseases—a total of over 60,000 deaths from tuberculosis. Within the same period only two deaths are recorded from leprosy. Compared with another contagious disease, syphilis furnishes a contingent of 1,354 deaths. Of course, the murderous influence of syphilis upon the offspring is not considered in this report. From a social and socio-economic standpoint syphilis is an infinitely greater curse to a community than endemic leprosy could be, yet syphilis are permitted to propagate this disease without sanitary surveillance.

We may ask, Why this amazing inconsistency, this unjust discrimination in the application of our sanitary laws? Why is leprosy singled out from other chronic infectious diseases, infinitely more dangerous to the public health, and subjected to such harsh and severe measures for its repression? Is this course of action dictated by sound sanitary science, or prompted by considerations of public safety? Is it not rather a policy forced upon our boards of health in obedience to popular clamor?

It will be my object to show you in these pictures that from the point of view of its objective or clinical characters leprosy is not more repulsive than many other diseases of common occurrence among us—such as syphilis, cutaneous tuberculosis, cancer, sarcoma, mycosis fungoides, and other new growths of the skin. There may be seen at any time in the venereal and dermatological wards of our City Hospital examples of cutaneous disease quite as disfiguring. Cancer and sarcomatosis produce lesions more disgusting to the sight, more offensive to the nostrils, more painful, and more rapidly fatal. The mortuary statistics from which I have already quoted record 9,246 deaths in ten years from cancer, including sarcoma. Since 1886 the mortality from this source has increased over thirty-three per cent. As a matter of fact there is no infectious disease which is so long in its incubation, so mild in its initial manifestations, so prolonged in its exemption from serious accidents as leprosy. In anæsthetic cases, its entire symptomatology for five, ten, or fifteen years may be limited to a few erythematous patches and occasional neuritic pains. There is no disease of a necessarily fatal character which grants its victims so long a lease of life. Even after characteristic evidences of the disease are manifest, the patient may live in comparative health for many years with faculties unimpaired

and capacity of usefulness and work undiminished. I am speaking now of leprosy in this country under favorable conditions. I have had under my observation three patients with unmistakable signs of anæsthetic leprosy, two of twelve years' duration each, the other of seven years. In one case there has been a marked retrogression of the symptoms, with apparent cure, in the other two the symptoms have remained practically stationary. All of these are Americans who contracted the disease abroad. Now, if these individuals had been sent to North Brother Island, confined in close quarters, condemned to a life of inactivity and idleness, with no interest or occupation to distract their minds from brooding over their unfortunate condition, the result would have been vastly different.

Another practical aspect of leprosy is its contagiousness, or rather the degree of its contagiousness in this country. I say in this country advisedly, because, while I am convinced of the eminent contagiousness of leprosy in certain countries and among certain races, I believe that it is influenced largely by conditions of climate, food, and habits of life. Observation shows that lepers coming to this country almost invariably improve, for a time at least, and that the disease pursues a milder and a longer course. The very conditions which inhibit its rapid course no doubt operate in enfeebling or extinguishing its contagious activity. The soil is sterile or unfavorable, and each centre of infection dies out from the lack of conditions favorable to its development. Numerous facts might be cited to show that leprosy transplanted to this climate does not take root and flourish, but tends to die out from natural causes.

From time immemorial leprosy patients have been treated in the public hospitals of this city, and in some instances have been employed as orderlies in the wards. So far as is known no case of contagion to the other inmates of these hospitals has ever been traced to this intimate contact.

We have records of one hundred and sixty-one Norwegian lepers who have settled in the various Scandinavian colonies of our Northwestern States. There is no authentic account of a single case of leprosy originating from contact with these immigrants.

Turning now to the southern part of this country, we find that in Louisiana, where leprosy has existed since the colonial days, there has been an increase in the last twenty-five years. Dr. Blanc, in 1892, reported eighty-four cases. Dr. Dyer, in a recent letter, informs me that he has seen seventy-six cases, only five or six of whom were included in Dr. Blanc's statistics. This increase may be due to the more tropical climate, the greater susceptibility of the Creole and other mixed races, or to greater promiscuity in modes of living.

So far, however, as we can intelligently interpret the facts of experience as bearing upon the spread of leprosy in this city, the conclusion must be that such danger does not appear to be imminent.

But without reference to the imminence of this danger it must be conceded that the presence of lepers in our midst is not desirable. Leprosy in this city has been exclusively of exotic origin, and the most effective prophylactic measure would appear to be the establishment of a strict quarantine against the entry of those affected with the disease. Unfortunately, no system of quarantine can be devised sufficiently strict and searching to exclude a disease so little manifest on ordinary examination as leprosy.

The final practical point to which I would call your attention is the method of dealing with leprosy as it exists in this city. What shall be done with these unfortunates?

Our sanitary authorities, it is presumed, are disposed to act with every consideration for these people consistent with what they conceive to be the interests of the public health. The present policy of incarcerating all lepers that come under their observation is, in my opinion, to be condemned as not only cruel but a violation of the rights of the individual. If it be necessary to confine them on North Brother Island, it is necessary to continue this confinement until they die. It is, virtually, imprisonment for life. Now a system which assigns the same punishment to the unfortunate victim of disease as to a desperate criminal is opposed to humanity and justice. Moreover, this policy must fail of its purpose because of the incompleteness with which it is carried out. Any quarantine to be effective must be thorough and complete in its application. It is well known that the five lepers now at the island constitute but a small proportion of those now in this city. Merely imprisoning any stray leper that may happen to enter a dispensary or be seen wandering in the streets is but a half-way measure. If the board of health looks upon leprosy as properly coming within the regulations prescribed for small-pox, typhus fever, or other acute contagious diseases, it should, in order to be consistent, compel every physician, under penalty, to immediately report every case coming under his observation.

In an article on Leprosy some years ago (*Morrow's System*, vol. iii, Dermatology) I expressed the opinion "that in this country the compulsory segregation of lepers in lazarettos, as has been recommended by some of our health authorities, can scarcely be considered a necessary protective measure." I believe that if a leper provides himself with a separate room, bed, and board, he is practically innocuous so far as contagion is concerned. Should he require medical care, he may be safely treated in our charity hospitals, in wards specially provided, without danger to the other inmates.

This is my individual opinion. I recognize, however, that in view of the responsibility imposed upon the board of health in their capacity as guardians of the public health, the leprosy problem is a delicate and difficult one to deal with. I do not think it should be treated with careless indifference or the contempt of

ignorance. If, in the opinion of our sanitary authorities, the presence of lepers among us is a menace to the public health, of such serious character as to demand their segregation, then a home or asylum, with suitable hygienic surroundings, should be prepared for their care and maintenance by the State or national Government. Such an asylum should be arranged with special adaptation to their peculiar needs. In view of the chronicity of the disease they should not be condemned to confinement and inactivity, but should be provided with interests, means of employment, and recreation.

An intelligent discrimination should be exercised in distinguishing cases suitable for segregation.

While we know nothing definitely of the modes of infection or the conditions under which it takes place, we recognize Hansen's bacillus as the active efficient cause of leprosy. Its contagiousity will depend upon the type of the disease and its stage of development. In the pure type of anæsthetic leprosy the bacilli remain for many years localized in the nerve tissues and are not found in the cutaneous lesions. Such cases are probably exempt from all possibility of danger until at an advanced stage, when the tissues break down and liberate the bacilli. In the writer's opinion such cases bear much the same relation to the tubercular form, from the point of view of contagion, as fibroid phthisis does to acute or chronic pulmonary tuberculosis. Lepers in good circumstances, able to provide themselves with separate homes, and whose intercourse with the healthy can be restricted under sanitary surveillance, should not be subject to segregation.

Finally, if lepers are segregated, they should receive expert medical care, so that any advance in the treatment of the disease may be utilized to their advantage. The lamentable failure of our therapeutic resources is due largely to the conditions under which they have been applied. The one conviction forced upon these unfortunates when placed in a lazaretto is that they are shut up to die; the utter hopelessness thus engendered renders all treatment a failure. Says a well-known writer: "When a man affected with leprosy is taken from his home and friends, pronounced unclean, immured in a lazaretto with many loathsome fellow-sufferers, and given to understand, as is usually the case, that death is the only portal of escape open to him, the impression upon his mind is such as to counteract the effect of all remedies, and under such circumstances nothing short of a miracle could be expected to effect a cure of leprosy."

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Surgery, on Thursday evening, the 5th inst., the following papers were to be read: An Historical Sketch of Lithotomy, by Dr. John Parmenter; Inflammatory Diseases of the Prostate and its Appendages, by Dr. J. Henry Dowd; and The Comparative Merits of the Operations for Stone in the Male, by Dr. John B. Heath, which was to be discussed by Dr. Herman Mynter and Dr. William H. Heath.

## AN OPERATION FOR SHORTENING THE OCULAR MUSCLES IN ASTHENOPIA, ETC.

By FRANCIS VALK, M.D.,

PROFESSOR OF DISEASES OF THE EYE  
IN THE NEW YORK POST-GRADUATE SCHOOL AND HOSPITAL.

THE operation for advancement of the ocular muscles has been in use by ophthalmic surgeons for many years and has been changed and modified by many, but as it is performed at the present time it is a delicate and extensive operation in which an assistant is required; furthermore, the subsequent removal of the sutures is almost a second operation. I believe that owing to these conditions the operation is seldom performed unless it is absolutely necessary, as in cases of extreme divergent squint and paralysis of some one of the ocular muscles.

For the past two years I have successfully attempted a different method to attain the same object, provided the result desired is not too great, and think that I have succeeded in devising a method of shortening the ocular muscles that is easy to perform, that does not require an assistant or the removal of the suture, and that, moreover, produces an entirely satisfactory result.

Dr. G. C. Savage, of Nashville, Tenn., suggested in an editorial published in the *Ophthalmic Record* two years ago, the idea of shortening the straight muscles of the eye in insufficiency by taking a tuck in the muscles, using for this purpose a silk suture with two needles. I believe he was the first to publish the method of operation; but my attempts were made independent of Dr. Savage, as I was not at the time aware of his article. Still, as we have the two methods of operating, I must leave the choice to the profession, and I will describe the procedure as I now use it, showing also a new instrument that I find very useful and of great assistance to me while passing the suture. This instrument was made for me by Mr. E. B. Meyrowitz, of this city. I would also state that I was the first who used the catgut suture to take a tuck in these muscles and allowed it to be absorbed, therefore requiring no further interference with the eye in order to remove the suture. For the above-mentioned purposes I profess to be the first who has used the catgut suture in eye surgery, though I understand that Knapp has used it for some time, but for altogether different purposes—as, for example, tying the conjunctiva, etc. I have found this new method very useful in convergent squint with amblyopia, in divergent squint, in paralysis of the externi and interni, and particularly in insufficiency of the ocular muscles where the indications are to strengthen the weaker muscles, instead of as in the old method of weakening the stronger muscles by a partial or a complete tenotomy. This method of shortening has been described in the *Post-graduate* for May, 1896, and in the *Ophthalmic Record* of the same month; but to

bring it more fully to the attention of the profession, I will describe the procedure as I now perform it.

The muscle to be shortened or strengthened is first exposed by a horizontal incision in the conjunctiva and subconjunctival tissue; then, after passing two strabismus hooks beneath the muscle and forcibly separating them to the desired extent, I now pass beneath the muscle this little instrument, which I call twin strabismus hooks. This instrument consists of two arms connected by a hinge, over which hinge is placed a small spring sufficiently strong to keep the two hooks placed at the free ends of the arms well apart or separated while the suture is being applied. When in position the instrument is resting on the patient's cheek out of the operator's way. I now take a suture of No. 0 or 00 sterilized catgut that I have had put up in capsules, each containing sufficient for one operation, armed with a fine, round, half-curved needle. This needle is now passed through the tendon close to the sclera and beneath the hook, coming out above, then passing it from within outward through the upper edge of the belly of the muscle at a point as far back as we desire to shorten the muscle. It is now carried across the muscular tissue and is again passed from without inward through the lower edge and comes out below; we now pass the needle back beneath the hook through the lower part of the tendon and the needle is cut off. In passing the suture we may commence below and so simply reverse the process. Now remove the hooks and carefully tie the suture according to the desired effect.



When the suture is tied we see the small knuckle or *tuck* formed at the incision; this will slowly disappear as the suture is absorbed and the tissues firmly united. After the suture is tied I bring the edges of the opening made in the conjunctiva as nearly together as possible and then simply apply cold-water dressing. The eye is never bandaged except when the patient is going out, and, moreover, it may be used. In cases of strabismus, either convergent or divergent, I generally cut the opposing muscles by a complete tenotomy before tying the suture.

I give the records of twenty operations performed by this method, and in all the results for the relief of symptoms or for the correction of squint have been very gratifying. In only one case has there been any failure for rapid and complete healing of the muscle and conjunctiva. In squint with amblyopia this operation, combined with tenotomy of the opposing muscle, has been very successful, and I think that my experience has been sufficiently good to recommend the procedure to the profession.

The following twenty operations will illustrate the



conditions in which I think the use of the suture is indicated:

For convergent concomitant squint (1st class)	9
For convergent concomitant squint (2d class)	3
For paresis.....	1
For insufficiency of ocular muscles.....	7

Total ..... 20

In the last-mentioned cases the results have seemed to me far superior to that of a partial or a complete tenotomy, for by this method we strengthen a weak muscle instead of weakening the action of a strong one.

CASE I. *Paresis of Left Externus*.—Mr. F. A. F., aged thirty years; homonymous diplopia. May 20, 1894, put catgut suture in left externus. Result: complete relief of diplopia.

CASE II. *Weakness of Externi*.—Mrs. H. N. T., aged thirty-eight years, San José, Cal. Pain in head extending down the spine; can not use the eyes; when reading, pain much more. Refraction examined under atropine and glasses ordered; after one month's trial they do not relieve the pain in the head. Repeated examinations of muscle balance show add. 20°, abd. 0°, esophoria 6°.

January 17, 1896.—Catgut suture in left externus. Result: add. 20°, abd. 5°. Two months after the operation she reports, by letter, that she is using the eyes for reading and the pain is relieved.

CASE III.—E. W. A., aged twenty-three years. Sent to me by Dr. Carter. Headaches, frontal, extending backward. Manifest hyperopia of +.50 D. V. =  $\frac{2}{3}$  +. After repeated tests add. 16°, abd. 0°.

May 5, 1896.—Catgut suture in left externus.

Result: headaches stopped; add. 16°, abd. 4°.

In this case there was some infection of the wound.

CASE IV. *Weakness of Interni*.—Miss A. S., aged thirty years. Headaches, frontal and occipital. Refraction; compound myopic astigmatism, axes toward temples, corrected with glasses, but after four months no relief from pain. Has crossed diplopia; by prism test add. 2°, abd. 10°. From July, 1894, to July, 1895, put catgut suture in both interni and did partial tenotomy of both externi.

Result: add. 16°, abd. 8°; much better but not completely relieved.

CASE V.—Mr. C. J. F., aged thirty-two years. Has not used the eyes for working or reading during past three years; neurasthenic; complains of drawing sensation in back of head and neck. Has myopic astigmatism fully corrected by glasses, but they do not give him any relief. Crossed diplopia; by prism test 4°, and at times has double vision. Add. 12°, changing by repeated trials; abd. 10°.

November 1, 1895.—Catgut suture in right internus. Two weeks after, add. 30°, abd. 8°. Two months after operation reports by letter that he is back at work, book-keeping, and feels better than he has for several years.

CASE VI.—Miss S. J., aged twenty-five years. Is very dizzy, and has had double vision for past six months. V. =  $\frac{2}{3}$  —, Hm. 50 D., add. 3°, abd. 5°. Catgut suture in right internus. Two months after, all symptoms disappeared and add. 12°, abd. 5°. To use +.50 D. glass for reading. I saw this lady fifteen months after the operation, and on examination the lateral balance of the muscles was add. 16°, abd. 5°.

CASE VII.—Mrs. G. H., aged forty-nine years. Headaches, frontal, and has dizzy spells. V. =  $\frac{2}{3}$  — w. + 1 D., cyl. ax. 90° =  $\frac{2}{3}$  —. Add. 6°, abd. 6°. Catgut su-

ture in left internus. Three months after, reports much better. Add. 12°, abd. 6°.

*Convergent concomitant squint, first class, seven cases.*

CASE VIII.—W. G., aged twenty years. R. V. =  $\frac{2}{3}$  +; L. V. = fingers at two feet.

December, 1895.—Tenotomy of left internus. Immediate result good, but squint returned.

January, 1896.—Catgut suture in left externus. Two months after, perfect cosmetic effect; no change in vision.

CASE IX.—D. B., aged seventeen years. R. V. =  $\frac{2}{3}$ ; L. V. = fingers at ten feet. Has compound hyperopic astigmatism.

September, 1895.—Catgut suture in left externus and tenotomy of left internus. Perfect cosmetic result. Ordered + 2 D., cyl. ax. 90°.

CASE X.—S. D., aged five years; glasses for two years, correcting refraction of + 1 D. in each eye, but no improvement in squint. Operation at hospital under ether.

May, 1896.—Catgut suture in left externus and tenotomy of left internus. Perfect cosmetic result.

CASE XI.—Mrs. L. B., aged thirty-one years, Liberty, N. Y. R. V. =  $\frac{2}{3}$  w. +  $\frac{1}{15}$  C +  $\frac{1}{15}$ , cyl. ax. 180° =  $\frac{2}{3}$ . Put catgut suture in right externus with perfect cosmetic result.

CASE XII.—E. A. P., aged eight years. This boy has slight nystagmus in both eyes with the squint. R. V. =  $\frac{1}{10}$ , Hm. 2 D.; L. V. (?) ; oph. shows Hy. 6 D.

May, 1895.—Under ether and assisted by Dr. Coffin, I put catgut suture in left externus and did a complete tenotomy of left internus. Four months after, perfect cosmetic result. R. V. =  $\frac{2}{3}$ ; L. V. = fingers at 4 ft.; no nystagmus. Eight months after, same vision.

CASE XIII.—E. W., aged twenty-three years. R. V. =  $\frac{2}{3}$ , Hm. 1 D.; L. V. =  $\frac{2}{3}$  w., Hm. 3 D.; ophthalmoscope same degree of hyperopia.

March, 1895.—Catgut suture in left externus and tenotomy of both interni. Perfect cosmetic result.

CASE XIV.—F. L., aged thirteen years. This young girl had hysterical amblyopia associated with her convergent squint. Refraction, compound hyperopic astigmatism. R. V. = shadows, L. V. =  $\frac{2}{3}$ .

February, 1896.—Catgut suture in left externus while under ether. One month after, no squint and vision slowly returning. R. V. counts fingers, L. V. =  $\frac{2}{3}$ .

*Divergent concomitant squint, first class, two cases.*

CASE XV.—S. D., aged fifteen years. R. V. =  $\frac{2}{3}$ ; L. V. =  $\frac{2}{3}$  —; can fix with both eyes at near point, but at distant vision right eye turns outward.

March, 1896.—Catgut suture in right internus. Has hyperopic astigmatism, and I ordered +.50 D., cyl. ax. 90° for each eye. Result perfect.

CASE XVI.—A. C., aged fifteen years. Divergence of right eye since childhood. R. V. =  $\frac{2}{3}$  w.; L. V. =  $\frac{2}{3}$ . Refraction R. = compound myopic astigmatism; L. = Hm.

May, 1896.—Catgut suture in right internus and tenotomy of externus. Perfect cosmetic effect.

*Convergent concomitant squint, second class, three cases.*

CASE XVII.—G. F., aged seven years. Alternating squint. Hyperopia, 3 D. Atropine and glasses tried for two months; no result.

January, 1896.—Catgut suture in left externus and tenotomy of internus. Six weeks later ordered + 2 D. each eye. Result perfect.

CASE XVIII.—H. H., aged thirteen years. Right eye turns inward. R. V. =  $\frac{2}{3}$  w. — 4 D. =  $\frac{2}{3}$ ; L. V. =  $\frac{2}{3}$  w. —.50 D. =  $\frac{2}{3}$ . Under atropine R. V. =  $\frac{2}{3}$  w. — 1.50 D. =  $\frac{2}{3}$ ; L. V. =  $\frac{2}{3}$  w. — 50 C —.50, cyl. ax. 30° =  $\frac{2}{3}$ . + glasses do not correct the squint,

so I put catgut suture in right externus. Result perfect.

CASE XIX.—D. O. C., aged twenty-eight years. Convergent squint since childhood. R. V. =  $\frac{3}{80}$  w. + .50, cyl. ax.  $90^\circ$  =  $\frac{3}{80}$ ; L. V. =  $\frac{3}{80}$ , imp. w. + .50, cyl. ax.  $90^\circ$ .

August 5, 1895.—I did a complete tenotomy of right internus and next day put in catgut suture in left externus. Result perfect and with binocular vision.

In the history of my squint cases my reasons for dividing them into two classes have been published, and I note perfect cosmetic results, as I have very little confidence in the restoration of vision in an amblyopic eye, or that binocular vision should result.

In all of these cases, from both private and clinical practice, in which the suture was inserted twenty times, the results for the relief of muscular asthenopia, paresis, and squint, with or without amblyopia, have been perfect and satisfactory. In the asthenopic cases we have immediate relief and gradual improvement; in paresis the diplopia disappeared, and in squint the cosmetic effect was all that could be desired. In all the cases, except one, healing was rapid with only slight œdema of the ocular conjunctiva for a few days, and in that case there was some infection of the wound, due, no doubt, to carelessness on the part of the patient; but it finally healed with a good result. I have had Meyrowitz prepare the sterilized catgut for me and put it in small capsules, each containing a sufficient quantity for one operation; for we can only depend upon it being readily absorbed when it is perfectly sterilized.

In concomitant squint, either convergent or divergent, with amblyopia, I put in the suture and then cut the opposing muscle before the suture is tied, thereby completing the operation and placing the eye in its proper position with but one operation.

The suture can be easily applied under the anæsthetic effect of cocaine, except in young children, when I prefer to do it while they are under ether.

Fifty years ago, before Donders made his great discovery that asthenopia was due to hyperopia, the surgeons of that day frequently performed tenotomy of the lateral muscles for the relief of asthenopia, and in many cases gave relief; but Donders's discovery seems to have changed the opinions of the ophthalmic surgeons, and we now depend on glasses for relief in all cases. But modern methods of investigation have proved that while many patients are relieved by glasses, still there are those which we meet with very frequently that do not derive the expected relief from their glasses; and when we do find a decided want of balance in the power of the muscles, compared with that of the normal proportion, as stated in a paper by myself in the *Medical Record* of July 21, 1894, we are then justified in an operative procedure which will relieve the asthenopia.

In cases of muscular asthenopia I depend entirely upon the prism tests for indications in the use of the suture, for we should not deprive the eyes of their most

useful function, the guiding sensation or fusion power. At the same time bearing in mind the natural uses of the straight muscles to move the eye in different directions; and from the foregoing we can readily decide when and where the deficiency exists, and can apply the suture for its correction.

There has been so much opposition in the profession to the partial and graduated tenotomies, and still further so many failures, that some, I think, have perhaps ceased to operate; but I do not believe the same objections can hold in the case of the procedure to which I have reference. It can be applied to so many cases of insufficiency of the straight muscles without the least danger of overcorrection or of producing squint that I offer it to the profession for a fair and complete trial.

146 EAST THIRTY-SEVENTH STREET.

## Therapeutical Notes.

**The Internal Treatment of Eczema.**—Brocq and Jacquet (*Précis de dermatologie; Therapeutische Wochenschrift*, September 27, 1896) give to arthritic patients the following solution:

R Sodium benzoate..... 30 to 75 grains;  
Sodium bicarbonate..... 180 "  
Syrup..... 4,500 "

M. Four teaspoonfuls to be taken daily. For gouty patients and those affected with lithiasis, the sodium benzoate is replaced with lithium benzoate. For lymphatic and torpid individuals the following is prescribed:

R Sodium arsenite.....  $1\frac{1}{2}$  grain;  
Cherry-laurel water..... 750 grains;  
Distilled water..... 3,000 "

M. From one to four teaspoonfuls to be taken daily, before meals. Or the following may be ordered:

R Sodium arsenite.....  $\frac{3}{10}$  of a grain;  
Sodium benzoate..... 30 to 75 grains;  
Sodium bicarbonate..... 150 "  
Syrup of orange peel..... 6,000 "

M. S.: From two to three tablespoonfuls daily. Anæmic persons should take iron also. At the beginning of cutaneous congestion the following may be prescribed:

R Quinine hydrobromide.....  $\frac{1}{2}$  of a grain;  
Extract of belladonna.....  $\frac{1}{100}$  to  $\frac{1}{300}$  "  
Extract of gentian.....  $\frac{1}{2}$  "  
Glycerin..... a sufficiency.

M. To make one pill. From four to eight such pills to be taken daily.

**A Gargle for Follicular Amygdalitis.**—Levy (*Semaine medicale*, September 23, 1896; *Wiener klinische Rundschau*, October 11, 1896) recommends the following:

R Creosote..... 8 drops;  
Tincture of myrrh, } each..... 900 grains;  
Glycerin, }  
Distilled water..... 1,800 "

M.

**The Horsechestnut as a Remedy for Hæmorrhoids.**—Artault (*Revue de thérapeutique*, 1896, No. 5; *Centralblatt für innere Medizin*, October 10, 1896), acting on

the hint of the popular esteem in which the horsechestnut is held as a remedy for hemorrhoids, has used a concentrated tincture of the nut in twenty-one cases, and always with very striking results. He thinks it acts as a specific on the pain and has a direct and intense constrictive action on the veins of the pelvis. He gives ten drops of the tincture once a day, and finds that usually a few days' employment of the remedy is sufficient.

**An Application for Varicose Ulcers.**—Simonelli (*Semaine médicale; Wiener klinische Rundschau*, October 11, 1896) recommends this powder:

R Sodium chloride..... 10 parts;  
Menthol..... 1 part.

M. After cleansing of the ulcer this is to be dusted on. Under this treatment even perfectly atonic ulcers soon begin to granulate healthily, and then they may be treated with cauterization, skin-grafting, etc.

**A Lotion for the Itching of Urticaria.**—The *Province médicale* for October 3d gives this formula as "for the itch":

R Distilled water..... 450 parts;  
Cherry-laurel water..... 50 "  
Chloral (hydrate?)..... 5 "  
Cocaine hydrochloride..... 3 "

M.

**Ichthyol in the Treatment of Gonorrhœa.**—Canova (*Thèse de Paris*, 1895; *Centralblatt für Gynäkologie*, October 10, 1896) recommends a one- or two-per-cent. solution of ichthyol as a urethral injection. He says it is painless and very efficient; in a few cases it has cured the disease in so short a time as six days.

**The Incompatibility of Antipyrine and Calomel.**—Dr. H. Werner (*Pharmaceutische Zeitung*, June 10, 1896; *Wiener klinische Rundschau*, October 11, 1896) gives a caution against the simultaneous use of these two drugs. Their reaction results, he says, in the formation of a dangerous amount of corrosive sublimate even when ordinary medicinal doses are given.

**Arsenic in the Treatment of Lupus Erythematosus.**—At the Sixty-eighth Congress of German Naturalists and Physicians, held in September (*Deutsche Medizinische Zeitung*, October 5, 1896), Dr. Joseph Schütz, of Frankfurt on the Main, spoke of the unsatisfactory results of prevailing methods of treating this disease, and particularly of the positive harm done with highly irritating applications employed for too long a time. He had found that arsenic in very weak solutions had a favorable influence on the disease; Fowler's solution, diluted with from four to six times its weight of water and painted on the affected area twice a day, caused within six days swelling and slight painfulness of the part, but without any exudation of serum; this condition subsided in eight days more under the use of mild pastes. The arsenic spared the healthy tissue. By this treatment he had cured nine cases. Healing had taken place without the formation of scars.

**Apenta Water to Correct the Unpleasant Effects of Morphine.**—In an article entitled Notes on Apenta and Some Other Bitter Waters (*British Medical Journal*, September 26, 1896), Dr. Julius Althaus remarks that it is useful to know that in cases where we are obliged to give morphine Apenta water has an excellent effect in neutralizing its prejudicial action on the hepatic functions, acting much better than mercury or podophyllin.

THE

## NEW YORK MEDICAL JOURNAL, A Weekly Review of Medicine.

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### MUSHROOM POISONING.

ONE of our Paris contemporaries, the *Progrès médical*, sounds a timely note of warning against trusting to the "instinct" of persons who, having no scientific knowledge of the subject, profess to be able to distinguish unerringly between the edible and the poisonous fungi. It seems that an unusually large number of cases of toadstool poisoning occurred in various parts of France during the month of September, and among them, and singularly emphasizing the *Progrès's* caution, was the death of a man and his wife who for more than fifty years had dealt in mushrooms. Three cats that had eaten these persons' dejecta died also.

Our contemporary speculates as to whether or not the storms that are so apt to occur in the early part of September make the poisonous fungi particularly dangerous at that time. It remarks that the plants of tropical regions have an activity of secretion quite different from that possessed by the same plants growing in temperate districts. However that may be, says the French journal, the ordinary tests to distinguish the edible from the poisonous fungi, such as the odor, the taste, and observing whether or not they blacken a silver spoon in the cooking, are not to be trusted; it is only the botanical characteristics that can be relied on. Besides, the writer continues, it is not true that poisonous species become harmless on boiling, expression of the juice, or maceration. In the public markets, especially in Paris, only the innocent species, those that are the most commonly cultivated, are to be found, but many amateur cultivators of fungi are given to raising species that not all of them are able to distinguish from various poisonous species of *Amanita*.

The frequency with which fatal cases of mushroom poisoning are reported at the time of the year mentioned, that of the early rains and the first mushrooms, the article goes on to say, shows how cautious one should be in the tentative consumption of fungi that grow wild in the meadows and woods; persons who imprudently trust themselves to select edible mushrooms, relying on their instinct in the absence of scientific information, expose themselves to terrible dangers.

The *Progrès* tells of an excellent plan that occurred



to a pharmacist in one of the regions in which the accidents in question had happened. He put specimens of the poisonous mushrooms of the neighborhood into preserve jars and kept them on view in his show-window, so that persons passing his shop could learn a most instructive object lesson if they were willing to stop for an instant. This pharmacist must be a most benevolent man, but not every community can rely on having his like. In this country, fortunately, the government publications give ample means of distinguishing the edible from the poisonous among fungi, and mushrooms unexcelled in flavor and nutritive value grow in the United States.

#### THE ARMY MEDICAL SCHOOL.

THE *Report of the Surgeon-General of the Army* for the year ending June 30, 1896, contains an interesting report by Assistant Surgeon-General Alden, the president of the Army Medical School. It seems that the last formal session began in November, 1895, and closed in the following March. Up to the beginning of that session, the school had not been formally open since February, 1894, owing to the fact that during that interval no new medical officers were appointed, but from time to time instruction was given to some of the older officers of the medical corps in the chemical and pathological laboratories.

The main courses of instruction given, says Colonel Alden, were in the duties of medical officers, in military surgery, in military medicine, in military hygiene, in sanitary chemistry, in clinical and sanitary microscopy, in hospital-corps drill, and in first aid to the injured. The members of the faculty are stated to have taken advantage of experience acquired at the former session to improve their courses, especially in the direction of making them more practical. Particular mention is made of the value of the course in operative surgery on the cadaver. In regard to his own branch, that of the duties of medical officers, President Alden says that it has been made as practical as possible without a direct connection of the school with a military post or military hospital.

In addition to the instruction given by the regular faculty of the school, auxiliary courses were given as follows: Five lectures on military law, by Lieutenant-Colonel Davis, deputy judge-advocate general of the army and professor of military law at West Point; four clinical lectures on mental diseases at the Government Hospital for the Insane, under the direction of the superintendent, Dr. W. W. Godding; lectures on the Army Medical Library, by Dr. Robert Fletcher,

principal assistant librarian of the Surgeon-General's Office; lectures and laboratory demonstrations on parasites in man, by Professor C. W. Stiles, of the Department of Agriculture; and instruction in horsemanship, by Lieutenant H. A. White, of the Sixth Cavalry, under the direction of Colonel Gordon.

President Alden says that the faculty has watched with interest the career of the officers who passed out from the school at the close of its first session, and a gratifying showing has been the result. He finds that the relative standing of members of the class, as determined by examination at the end of the school course, is not the same as that attained by them on their examination for admission into the medical corps. It is the standing last mentioned that determines their rank, but the recommendation made in a previous report is repeated, in order to establish an incentive to the student officer—that his final rank in the army be made to depend on a combination of the marks attained on his entrance into the service and those earned in the school work.

#### MINOR PARAGRAPHS.

##### LAXITY OF THE JOINTS.

At a recent meeting of the Vienna Medical Club (*Therapeutische Wochenschrift*, October 18, 1896) Dr. Frey showed a boy, three years old, who, in addition to extreme laxity of the finger joints, had a forward luxation of the hand which could readily be converted into a backward dislocation. Moreover, the elbow joints were abnormally broad, and the radius could be displaced in various directions.

##### THE COMPARATIVE SAFETY OF TRIONAL AS A HYPNOTIC.

BEYER (*Deutsche medicinische Wochenschrift*, 1896, No. 1; *Fortschritte der Medicin*, October 15, 1896) remarks that, in spite of the widespread employment of trional, only six cases of poisoning with that drug are known. One was an instance of acute poisoning; more than one hundred and five grains was taken at a single dose, with suicidal intent, but the person survived. Of the cases of chronic trional poisoning, only one, Hecker's, can be accepted as purely the result of taking the medicine. The patient recovered after discontinuing the use of the trional, which he had taken in daily amounts of twenty-two grains for thirty-six consecutive days. It may therefore be said that trional is one of the best hypnotics, if not quite the best, for unpleasant effects are readily avoided if it is used properly.

##### ITEMS.

The New York City Civil Service Commission will hold the following examinations at its office in the New Criminal Court Building at 10 A. M. on the dates named. Applicants must be over eighteen years of age, citizens of the United States, and residents of the State of New York. Applications may be obtained from S. William Briscoe, secretary, New Criminal Court Building, New York city.

**November 12th.**—Lay sanitary inspector, Health Department. Candidates will be examined on sanitation, etc. Salary, \$1,200 per annum.

**November 13th.**—General inspector, Department of Public Charities. Candidates must have had executive experience in hospital management and organization. Salary, \$3,000 per annum.

**November 24th.**—Bacteriologist. Candidates must hold the degree of M. D. Knowledge of bacteriology required. Salary, \$1,200 per annum.

**November 24th.**—Assistant bacteriologist, Health Department. Knowledge of general bacteriology required. Salary, \$600 per annum. Candidates required to hold the degree of M. D.

Medical chief of staff, Department of Public Charities. Candidates must hold the degree of M. D. and have had experience in hospital organization and management. Salary, \$3,000. The date of this examination will be announced at a future time.

**"Infectious Diseases" in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 3, 1896:

DISEASES.	Week ending Oct. 27.		Week ending Nov. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	26	7	27	6
Scarlet fever.....	80	5	83	5
Cerebro-spinal meningitis....	0	0	0	0
Measles.....	61	2	41	2
Diphtheria.....	175	21	194	20
Tuberculosis.....	174	101	99	105

**The Rush Monument Fund.**—The secretary of the Rush Monument Committee, Dr. George H. Rohé, reports on October 31st that the following subscriptions to the fund have been received since he last reported:

April 17th, Dr. J. W. Hoff, Pomeroy, O.....	\$5.00
Dr. T. J. Acker, Croton-on-Hudson, N. Y.....	5.00
" 30th, Peoria City Medical Society (through Dr. O. B. Will), Peoria, Ill.....	25.00
Dr. D. W. Cathell, Baltimore.....	1.00
Dr. W. T. Cathell, Baltimore.....	1.00
May 9th, Dr. J. P. Getter and others, Mifflin Co., Pa.....	3.00
" 21st, Dr. E. H. Bishop, Towson, Md.....	1.00
June 10th, Dr. C. B. Burr, Flint, Mich.....	10.00
" 29th, Dr. W. H. Hardin, Anderson C. H., S. C.....	1.00
Herkimer Co. Med. Soc. (through Dr. G. Graves, Herkimer, N. Y.).....	25.00
Sept. 30th, Dr. J. W. Grosvenor, Buffalo, N. Y.....	1.00
Interest to date.....	81.00
Before reported.....	159.00
Total, \$3,856.39	3,727.39

**The New York Academy of Medicine.**—The programme for the last general meeting, on Thursday evening, November 5th, included the Wesley Carpenter Lecture, on The *Ætiology and Classification of Infectious Diseases*, by Surgeon-General George M. Sternberg, of the army; and a paper on The Physical and Schott Treatment of Chronic Heart Disease, by Dr. H. Newton Heineman.

At the next meeting of the Section in General Surgery, on Monday evening, November 9th, patients will be shown, and Dr. Edward M. Foote will read a paper on Formalin in the Treatment of Septic Wounds.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, November 10th, patients, new instruments, and specimens will be shown, and Dr. John A. Wyeth will read a paper on The Treatment of Strictures of the Male Urethra.

At the next meeting of the Section in Pædiatrics, on Thursday evening, November 12th, a patient will be pre-

sented, and papers will be read as follows: An Epidemic of Glandular Fever, by Dr. J. P. West, of Belaire, Ohio; and The Mode of Examining Sick Children, by Dr. J. Lewis Smith.

**The Sick Nurses' Fund.**—On Thursday, November 19th, from three to six o'clock in the afternoon and from eight to ten in the evening, the nurses of the New York Hospital will conduct a tea and sale in the administration building, No. 8 West Sixteenth Street, for the benefit of the sick nurses' fund.

**The Bender Hygienic Laboratory.**—The dedication of the Bender Hygienic Laboratory, in Albany, took place on Tuesday evening, October 27th. The order of exercises included a history of the building, by Dr. George E. Gorham, and an address by Dr. A. Jacobi, of New York.

#### Society Meetings for the Coming Week:

**MONDAY, November 9th:** New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Microscopical Club of the Buffalo Society of Natural Sciences; Gynecological Society of Boston; Maine Academy of Medicine (Portland); Burlington, Vermont, Medical and Surgical Club (annual); Norwalk, Connecticut, Medical Society (private).

**TUESDAY, November 10th:** New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Camden, N. J., County Medical Society (semiannual—Camden); Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery; Norfolk, Massachusetts, District Medical Society (Hyde Park).

**WEDNESDAY, November 11th:** New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of Alumni of the City Hospital, New York; Medical Societies of the Counties of Albany and Allegany (quarterly), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

**THURSDAY, November 12th:** Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; New York Physicians' Mutual Aid Association (annual); Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private—annual); Pathological Society of Philadelphia.

**FRIDAY, November 13th:** Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society; Medical Society of the Town of Sagerties, N. Y.

**SATURDAY, November 14th:** Obstetrical Society of Boston (private); St. Louis Medical Society.

#### Births, Marriages, and Deaths.

##### Married.

**EATON—POTTER.**—In Lancaster, N. Y., on Wednesday, October 28th, Mr. Lewis Eaton and Miss Fanny Maud Potter, daughter of Dr. Samuel Potter.

**HITZ—WINKLER.**—In Milwaukee, on Wednesday, October 28th, Dr. Henry B. Hitz and Miss Louise Dorothea Winkler.



MURPHY—MAMBERT.—In Troy, N. Y., on Thursday, October 29th, Dr. Parker H. Murphy, of Albany, and Miss Estella M. Mambert.

NEFF—PHILLIPS.—In Amsterdam, N. Y., on Wednesday, October 28th, Dr. Daniel D. Neff and Miss Abigail Phillips.

PAYNE—WRIGHT.—In New York, on Wednesday, October 28th, Mr. Halbert Edwin Payne and Miss Grace Grosvenor Wright, daughter of Dr. J. Williston Wright.

TRAYER—BROWN.—In Providence, R. I., on Wednesday, October 28th, Dr. A. W. A. Trayer and Miss Marion Augusta Brown.

WATKINS—MOSS.—In Lake Charles, Louisiana, on Wednesday, October 28th, Dr. T. H. Watkins, formerly of Jackson, Mississippi, and Miss Bertha S. Moss, daughter of Dr. A. H. Moss.

Died.

COLEMAN.—In Granville Ferry, Nova Scotia, on Saturday, September 5th, Dr. James Anderson Coleman.

HULL.—In Providence, Rhode Island, on Monday, October 26th, Amelia E. Hull, wife of Dr. James C. Hull.

SMITH.—In Williamstown, Massachusetts, on Saturday, October 24th, Dr. Andrew M. Smith.

## Letters to the Editor.

### AN UNWARRANTABLE USE OF A NAME.

THE PAVEMENT, NOTTINGHAM, ENGLAND, September 5, 1896.

To the Editor of the New York Medical Journal:

SIR: There has this week been sent to medical men in England a pamphlet advertising an American nostrum called sanmetto. In this pamphlet is what purports to be a testimonial from me.

This is an absolute forgery, as I have never used or in any way recommended the drug.

I shall be obliged if you will kindly publish this disclaimer and draw attention to this latest and most injurious development of business "enterprise."

I inclose a copy of the "testimonial" and have to add that I am taking legal advice as to how to stop and punish the fraud.

W. B. RANSOM, M. D.

## Book Notices.

*A Text-book of Histology, Descriptive and Practical. For the Use of Students.* By ARTHUR CLARKSON, M. B., C. M. Edin., formerly Demonstrator of Physiology in the Owens College, Manchester, etc. With One Hundred and Seventy-four Original Colored Illustrations. Philadelphia: W. B. Saunders, 1896. Pp. xx-554. [Price, \$6.]

THE object of this work, as stated in the preface and evident in the contents of the volume, is to furnish students of histology with both the descriptive and practical parts of the science of microscopical anatomy. The bulk of the volume is therefore about equally divided between descriptions of the histology of the tissues and viscera, and colored plates illustrating these structures. It scarcely need be said that an undertaking of such magnitude in a single volume can hardly fail to fall short of complete success. An examination of the work in detail shows that the wants of students only

have been considered in the compilation of material, and the failure to meet the wants of histologists can not be urged against this or any other of the many text-books written for the class room.

Two preliminary chapters are devoted to the subjects of hardening, imbedding, sectioning, and staining tissues for microscopical examination. Here are given the usual methods employed in this work, among which may be noticed some peculiar to English laboratories, for instance, the practice of imbedding in gum. Formalin is not mentioned as a fixing agent or as an adjunct to the use of the freezing microtome.

In describing endothelium as a variety of epithelium the author may be regarded by many as fully abreast with, and by some as rather ahead of, conservative authorities. In the chapter on the histology of the blood is successfully gathered, in small compass, a considerable portion of the subject of the blood of vertebrates, but the descriptions of technics are insufficient to enable the student to make satisfactory preparations of the blood for microscopical examination. Ehrlich's classification of leucocytes is in America rather preferred to that of Schultze.

The description of the histology of striated voluntary muscle fibre is most excellent, and an agreeable departure from the usual elementary treatment of the subject required by the scope of the work is to be found in the study of the histological changes in contracting muscle fibre as originally described by Professor Hayscraft.

Throughout the descriptions of the viscera the requirements of students have been carefully considered, and almost without exception have been well met. The illustrations representing the larger blood-vessels and that of the tonsil are, however, unsatisfactory, and not in accord with the general excellence of this feature of the work.

Compared with some more complete text-books on histology, such as the histological descriptions of *Quain's Anatomy*, this volume seems almost like an attempt to popularize the subject. Considered in its proper field it will be seen at once that the volume in the hands of students will greatly aid in the comprehension of a subject which in most instances is found rather difficult. For this purpose the work must be considered a valuable addition to the list of available text-books, and is to be highly recommended.

*A Treatise on Appendicitis.* By JOHN B. DEEVER, M. D., Surgeon to the German Hospital, Philadelphia. Containing Thirty-two Full-page Plates and other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. xv-17 to 168. [Price, \$3.50.]

No subject in surgery has undergone more thorough and careful examination in the past three years than appendicitis. The frequency with which cases are seen and the numbers of them which are reported justify the inquiries of the laity as to whether it is a disease produced by the habits of modern civilization or whether it was unrecognized in previous years. The present work, as well as those of Morris and Fowler, fail to answer this question satisfactorily, but they show us something far more important—viz., that our surgeons know more about the disease, its varieties, and its management than was dreamed of a decade ago.

The author has gone over the history, anatomy, ætiology, pathology, symptomatology, diagnosis, prog-



nosis, treatment, complications, and sequelæ of the disease. He holds the anatomical structure of the organ to be one of the chief predisposing causes of the disease, and lays great stress upon the fact that it has no anastomotic blood supply to maintain vitality when its one artery is interfered with by torsion or otherwise. The length and attachment of the meso-appendix are also of importance, as the shorter the mesentery the greater will be the curvature of the appendix, and consequently it will be less easily emptied of its contents. The writer does not think constipation, diarrhœa, or foreign bodies have any great causative influence in the majority of cases. The frequency of the disease is in inverse proportion to the age after thirty years, and men are much more liable to it than women, on account of the better blood supply to the organ in the latter. He points out in support of this theory the observation of Clado that there is a fold of peritonæum passing from the right ovary to the appendix which carries a small artery and thus supplies anastomotic circulation in females.

As to the exciting causes, he lays the greatest stress upon the invasion of micro-organisms, of which the appendix is always the seat. As to fecal stones, it is difficult to follow the author's logic when he maintains that they are the result of the inflammation and not the cause. The method of their formation in concentric layers, just as with stone in the bladder, presupposes, of course, a nidus or central body upon which the concretions may form. This may be a foreign body, a bit of inspissated mucus, or, for the sake of argument, a product of inflammation. As a matter of fact, however, it would take months if not years for a stone of any size to form by this process, and it seems improbable that the inflammation, which generally lights up with such suddenness, should have been present through all this period. At least, it seems to us much more probable that the "coprolith" by its gradual growth, distention of and pressure upon the walls of the appendix, should be the cause of the inflammation, rather than the reverse.

The division of the stages of appendicitis into endo-appendicitis, parietal appendicitis, peri-appendicitis, and para-appendicitis is no doubt scientific, but of no practical value, as there are no symptomatic dividing lines between them, and we question whether such minute subdivisions are not more confusing than helpful.

The gist of the chapter on treatment is found in the following two sentences: "Appendicitis is a surgical affection, and should be treated as such." "There is but one sure road to recovery, viz., early operation." This is the almost universal opinion of surgeons, and it remains for the practitioner to learn how to operate, what are the sequelæ he is apt to meet with, and how to manage them. These questions are ably treated of in the last chapter of this interesting book, and we can therefore recommend it as a full, safe, and reliable guide to all our readers.

#### *On Germinal Selection as a Source of Definite Variation.*

By AUGUST WEISMANN. Chicago: The Open Court Publishing Company, 1896. Pp. xii-61. [The Religion of Science Library.]

THIS very entertaining essay by the professor of zoology at the University of Freiburg is offered in further answer to the Spencerian tenet that the adaptations necessary for animal existence are produced by acci-

dental variations, and not by any force of utility or selection. The essay is therefore an attempt to free this department of natural science from the teleological principles inherent in materialism.

Without attempting to review the argument in detail, it may be stated that the writer, while admitting the existence and importance of accidental variations, holds to the Darwinian principle of *selection* in the production of species, and specially emphasizes the action of this principle on the *germ-plasm*. The article is an interesting and valuable addition to the author's work entitled *Germ-plasm*. A complete index greatly facilitates access to the numerous references of the text. The translation, by T. J. McCormack, is, in point of phraseology, very commendable.

#### BOOKS, ETC., RECEIVED.

*System of Diseases of the Eye.* By American, British, Dutch, French, German, and Spanish Authors. Edited by William F. Norris, A. M., M. D., and Charles A. Oliver, A. M., M. D., of Philadelphia. Volume I. Embryology, Anatomy, and Physiology of the Eye. With Twenty-three Full-page Plates and Three Hundred and Sixty-two Text Illustrations. Philadelphia: J. B. Lippincott Company, 1896. Pp. xvii-7 to 670. [Price, \$5.]

*The Practice of Medicine.* By Horatio C. Wood, A. M., M. D., LL. D. Yale, Professor of Therapeutics and Clinical Professor of Nervous Diseases in the University of Pennsylvania, etc., and Reginald H. Fitz, A. M., M. D., Hersey Professor of the Theory and Practice of Physics in Harvard University, etc. Philadelphia: J. B. Lippincott Company, 1896. Pp. x-1088.

*A Text-book of Materia Medica, Therapeutics, and Pharmacology.* By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago, etc. Philadelphia: W. B. Saunders, 1896. Pp. 11 to 858. [Price, \$4.]

*A Treatise on Obstetrics for Students and Practitioners.* By Edward P. Davis, A. M., M. D., Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. Illustrated with Two Hundred and Seventeen Engravings and Thirty Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-17 to 553. [Price, \$5.]

*The Diary of a Resurrectionist. 1811-1812.* To which are added an Account of the Resurrection Men in London and a Short History of the Passing of the Anatomy Act. By James Blake Bailey, B. A., Librarian of the Royal College of Surgeons of England. London: Swan, Sonnenschein & Co., Lim., 1896. Pp. xii-13 to 184.

*Some Studies of the Blood in Thyroid Feeding in Insanity.* By Middleton L. Perry, M. D. [Reprinted from the *Medical Record*.]

#### Miscellany.

**The Sepsis of the New-Born.**—The *Journal of the American Medical Association* for October 17th publishes the following account of a case which was reported by Dr. Henry E. Tuley at the recent meeting

of the American Medical Association. The author records it not only because of its rarity, but because of the interest attached to the case in connection with its etiology: The child was born of a healthy primiparous mother after a normal though rather tedious labor which had to be terminated by forceps. The child was a male weighing about seven pounds; it cried well and was quite vigorous.

The mother had no vaginal discharge before labor, but a vaginal douche of a 1-to-2,000 solution of bichloride of mercury was given upon the advent of the first pain; none were given afterward. Her puerperium was perfectly normal.

As soon as the head was born the eyes were wiped and the face was washed, the first bath being given some hours later. The cord was tied with a piece of silk from a skin which had been used the day before in an ovariectomy, and some of the same was used the next day in an abdominal operation, without further preparation. After the first bath the cord was dressed with talcum powder and wrapped in absorbent cotton.

During the first three days nothing abnormal was noted with the child; it had a normal temperature, nursed well, though apparently not satisfied, slept well, and had normal movements. On the fourth day a temperature was reported of 101.4° F. in the morning at six o'clock, and it had risen to 104° by noon. Dr. Tuley was asked to see the case at this time by the attending physician, Dr. L. S. McMurtry. It was decided that the temperature was a starvation one and that artificial feeding was indicated; it was accordingly put upon cow's milk, well diluted, to supplement each nursing, temporarily, as the breasts were at this time beginning to secrete. This reduced the temperature in five hours to 100.6°, and the next day the temperature was normal and the child seemed as well as usual. The cord dropped off the next day, the fifth, leaving a moist base, which was treated aseptically and dressed with talcum powder. The next day the temperature rose to 102.4° and the child was reported as listless and slow about nursing. Dr. Tuley was asked to see the child again at this time, and on close examination he found a retracted umbilicus, which, on depressing the edges, was found to contain about twenty drops of pus; this when wiped away showed the base or stump of the cord to be fungous in character. The child did not stand manipulation of the parts well, pain being caused when they were cleansed, and there was noted slight distention of the abdomen. After thorough cleansing of the navel with a bichloride-of-mercury solution, the fungous navel was touched with a twenty-grain-to-the-ounce solution of nitrate of silver and a powdered boric-acid dressing applied. This dressing was renewed twice daily and the silver solution used as before.

From this time to the child's death, three days later, the temperature rose continuously and steadily from an initial one of 102.4° to 107° a few hours before its death. Baths would reduce this a degree or so, but it would rise again in a few hours. It refused to nurse and was with difficulty fed breast milk, which had been pressed out for feeding with a medicine dropper. The day before its death it had passed very little urine and had several movements, which were composed almost entirely of mucus. The bowels were irrigated with plain water, which regulated this condition to a degree and also increased the amount of urine voided. On the day it died the skin was very hot and dry, and it was put into a hot-air bath, but this caused so much prostration that it was

removed, and stimulation kept up to the time of its death. A few hours before this occurred its hands and feet were noticed to become purplish and perfectly cold, and this condition had extended to the wrists and nearly to the knees before death. The abdomen was much distended and tender, the navel moist, and the granulation tissue covered with pus, though none could be forced from the vessels by pressure upon the abdominal wall.

This case is of particular interest, says Dr. Tuley, because of the following facts: The child was born of a healthy mother who had been in the hospital under the daily observation of the physician and nurses for nearly a month before her confinement; the labor occurred under the most carefully prepared aseptic surroundings, in a hospital where a great deal of abdominal surgery is done, and where no deaths had occurred in more than a year, and that one in another part of the building; it was the first case of obstetrics which had ever occurred in the hospital; the mother had a perfectly normal and uneventful convalescence and had no vaginal discharge before labor; the patient had an experienced trained nurse, on special duty, in charge, and more than the usual care was taken with the dressing of the cord, careful bathing and talcum powder being used. The question has arisen "Where did the infection come from which caused this child's death?" That it occurred through the navel there can be no doubt.

The literature of sepsis of the new-born is very meagre, say Dr. Tuley, but a number of cases have been reported. The following routes for infection have been mentioned. The umbilical cord and its stump are the most frequent points of infection; among others mentioned by Brothers are the following: Accidental injuries or operations with unclean instruments; mammary abscess; tongue-tie or circumcision; abrasions of the buccal mucous membrane, or slight injuries to the genitals or anus; septicæmia of the mother during pregnancy; premature rupture of the membranes, putrefaction of the liquor amnii, and aspiration of this by the child, causing a septic pneumonia; a violent inflammation of the mother's vagina acquired during the last weeks of pregnancy, with premature rupture of the membranes; and septic poisons transmitted from the mother by means of the milk when she has septicæmia following labor.

Jacobi mentions the gastro-intestinal tract as a frequent site of infection, but in his writings decidedly more prominence is given to the umbilicus and its care as a means of the prevention of sepsis. The pus of an ophthalmoblennorrhœa or the decomposing lochial discharge is also mentioned as a cause.

In this case all these sources of infection can be eliminated except the umbilicus. There were no operations done upon the child, the buccal mucous membrane was normal, the mother at no time had symptoms of sepsis, erythrit, or decomposing lochial discharge, and frequent examination of the lungs of the child failed to reveal any lesion. The time of infection can not be decided, says Dr. Tuley, but that it did not occur at the time of tying the cord and its first dressing is certain. There was no septic condition existing in the cord before it separated, as it mummified rapidly and was perfectly dry throughout after the separation. It probably occurred after it became detached, through the fungous navel left, although extra precautions were taken in its care. A possible cause, perhaps, was by septic matter



being carried through a wet napkin by capillarity from the alvine evacuations.

The treatment of sepsis, says the author, is still mainly preventive, and in the majority of cases it can be prevented. The possibility of its occurrence should always be kept in mind, and careful sterilization of ligatures and instruments should be done, as well as of the hands. The ideal ligature, says Dr. Tuley, is the rubber one, and in the ingenious instrument devised by Dr. A. C. Kellogg, with which a small rubber ring is applied to the cord, all danger of sepsis from the primary ligature is obviated, because of its ready sterilization; and hemorrhage simply can not occur.

The after-care of the cord is important; fatty applications should not be employed, but drying powders may be used to facilitate the mummification; a very good formula is one part of salicylic acid and eight parts of pulverized starch.

The care of the cord is of less importance than the care of the stump; every detail in the treatment of any surgical wound should be observed here. Should there develop omphalitis, gangrene of the umbilicus, arteritis, or phlebitis, the most active stimulation is indicated, with prompt attention to the proper cleansing and antiseptic treatment of the stump, the only precaution being the avoidance of carbolic acid as an application. The symptoms of them all are more or less similar, that is, the local appearance of the inflammation at the umbilicus, which is generally bathed in pus; peritonitis is always present to a greater or lesser degree, also pain and tenderness (especially during the bath), and a septic temperature.

**Paralysis due to Inaction.**—In the October number of the *Revue de médecine* M. Féré remarks that excess and lack of exercise are, like excess and lack of excitation, capable of provoking troubles which present striking analogies; for instance, deficiency, like excess, may lead to loss of power.

During the past few years, says the author, overfatigue has been said to play an important rôle in the pathogeny of a large number of nervous troubles. If this is true, it is none the less certain that the effects of overfatigue manifest themselves principally in those individuals in whom congenital or acquired debility has been observed. The primary individual defect shows itself equally well in subjects who suffer from symptoms of overfatigue in the most varied conditions.

Excessive work may cause predominating symptoms in a region of which the activity has been especially brought into play; this is seen in certain professional paralyses, such as hammer palsy; it is also the same in anæsthesia from excessive sensory excitation; but, in general, the entire organism of the individual feels the loss.

If excessive mental excitation is capable of provoking abolition of function, which may be more or less complete and lasting, then the absence of excitation may also produce important troubles. The excitation produced by a certain number of physical agents is indispensable to the maintenance of activity. If excessive excitation by light, for example, may produce local and even general symptoms, the absence of light may also cause symptoms not less important.

Motor activity is accompanied by a certain amount of heat; inactivity, on the contrary, takes away from the organism one of its principal means of defense against cold. Repose favors the harmful effects of cold,

for in individuals who, under the influence of rest, succumb to cold a painful torpor which precedes the lethargic drowsiness is observed. Rest in bed has been observed to cause slackening of respiration and of circulation. M. Guy has seen the pulse decrease from four to five pulsations in a hundred men from twenty to fifty years of age. Immobility retards the absorption of the medicaments which are introduced under the skin.

L. Meyer advocated rest in bed for quieting the agitation of the insane; and Roller, Neisser, and others have called attention to the utility of this treatment. The effects of inaction on psychical activity have been known for a long time; in individuals accustomed to work it may provoke mental troubles. Perfect has remarked that persons who have retired after acquiring a fortune often fall into a state of melancholy. In a general way, says M. Féré, it may be said that the mind suffers more from lack of work than from overwork.

Certain subjects who become reduced in some way to what Claude Bernard calls a life of oscillation, that is to say, particularly liable to external physico-chemical conditions, are more predisposed to the depressing effects of immobility. Like the absence or the excess of excitation, or exaggerated exercise, immobility may provoke in them a functional depression which may lead to paralysis.

**The Late Dr. William M. McLaury.**—The Northwestern Medical and Surgical Society has passed the following resolutions:

*Whereas*, It has pleased Divine Providence to take from us one of our oldest members, a former president of this society, and

*Whereas*, We, the members of the Northwestern Medical and Surgical Society, desire to place upon record our appreciation of the character of our deceased brother; be it

*Resolved*, That in the death of William Muir McLaury this society has lost a devoted, able, and faithful colleague, whose earnestness of purpose and loftiness of motive peculiarly fitted him for the profession which he adorned;

*Resolved*, That the loss which we thus mourn is not limited to our society, or even to our city;

*Resolved*, That we most respectfully and sincerely extend our heartfelt sympathy to his family, wishing for them that consolation which is the outcome of his noble life;

*Resolved*, That a draft of these resolutions be spread upon the minutes of this society, that duplicates be sent to the medical press, and that a copy be transmitted to the family of our deceased friend.

[Signed.] HENRY LING TAYLOR, M. D.,  
President.  
JOSEPH COLLINS, Secretary.

**The Serum Treatment of Typhoid Fever.**—The *Progrès médical* for October 17th contains a review of a recent work on this subject by Dr. M. Funck. It is a complete monograph on the typhoid bacillus and its toxine. In this work the author gives an account of many delicate personal experiments, from the results of which he concludes that the serum of animals which are "immunized" by means of typhoid cultures possesses all the properties that, according to Pfeiffer, are to be found in anticholera serum; that is, it affords protection against typhoid infection in small doses, but not against the *Bacillus coli communis*.



Dr. Funck believes in the therapeutic action of this serum, but he thinks that experiments should be limited to the laboratory for the present, and that the serum treatment of typhoid fever is not yet sufficiently perfect to be tried on man.

This work concludes with a chapter on the pathology of typhoid fever. According to the author, the typhoid bacilli, when introduced into the intestine, swarm in the lymphoid apparatus, where they become engaged in a struggle with the phagocytes, which destroy them, and this destruction causes the freeing of the toxins which is contained in the bacilli themselves.

#### Robinschek's Method of Treating Whooping-cough.—

In the *Lyon médical* for October 11th there is an abstract of an article from the *Bulletin médical de Paris* for September 13th, in which the writer says that this method consists in the introduction into the back of the mouth of a small tampon of cotton saturated with a one-to-one-thousand solution of corrosive sublimate, and pressing it against the lower part of the tongue in such a way that the liquid will bathe the epiglottis and the neighboring mucous membrane.

This method, with which the author has obtained good results, was applied in seventy-one cases of whooping-cough by Dr. Rocco Gentile; thirty-five patients were cured after from three to twelve applications; thirteen were considerably ameliorated, and the others interrupted the treatment or complications supervened which did not depend upon the whooping-cough.

One of the greatest benefits to be derived from this treatment is the rapid cessation of the vomiting which contributes so much to weaken the patients, who lend themselves very readily to the treatment and become rapidly accustomed to the introduction of the tampon.

Gentile has never employed more than one application a day. In a very small number of cases he has observed temporary disturbances, such as hæmorrhages of the conjunctiva and of the ear, buccal ulcerations, and slight fever; but these complications are not serious; in fact, children tolerate mercury easily.

**The Serum Diagnosis of Asiatic Cholera in Man.**—In the *Presse médicale* for September 26th there is an article on this subject by M. Achard and M. Bensaude, who state that they procured the serum of eleven cholera patients during a recent cholera epidemic. The blood was taken from a vein as aseptically as possible and sent to the authors in sterilized tubes carefully corked. Several of the specimens arrived in a state of perfect preservation, the clot not having undergone any liquefaction. In the others the coagulum was dissolved and the blood was somewhat altered, although still perfectly capable of being used; all the more so in that a certain degree of putrefaction does not prevent agglutination from being produced.

In the eleven cases which were examined the agglutination of the cultures of the cholera vibrio was shown ten times by the serum; twice on the first day of the disease, four times on the second day, three times on the third day, and once on the fourth day. The reaction was particularly distinct in two of the patients from whom the blood was taken on the third day. These patients recovered. The authors were able to make an examination of the stools in several cases, and ascertained the presence of the vibrio, so that the bacteriological examination of the intestinal contents distinctly confirmed the indications furnished by the serum.

For the purpose of testing the value of these examina-

tions the same investigation was made with the serum of fifteen persons who were suffering from various affections and with that of a healthy subject. In the majority of these cases no agglutination of the vibrio was produced.

With the blood of uræmic patients, however, the authors observed a small number of masses, but, on the whole, they were not at all comparable to those observed with the serum of cholera patients. Only those reactions which are absolutely demonstrative can be said to have a positive value.

To find this reaction the authors employed the procedure of culture in ten drops of bouillon with a drop of serum. This gave very distinct results; the instantaneous procedure was also successful.

The agglutinant reaction was shown in a more pronounced manner with a specimen of vibrio taken from the stools of a patient who had come under M. Trékaki's observation in the Greek Hospital of Alexandria than with a specimen of cholera vibrio taken from a patient in eastern Prussia. Metchnikoff, in his experimental researches, had also noticed a difference according to the origin of the specimens.

The authors think that these results are of sufficient interest to be reported, and state that, although the conditions may not have been favorable, since the patients themselves were not observed, the phenomenon of agglutination ascertained by them was absolutely typical.

They seem to think that the preceding method of examination might be utilized in a cholera epidemic as a means of diagnosis, especially as the agglutinant property seems to show itself into the serum at an early stage, from the first day in some cases.

**The Treatment of Pulmonary Congestion in the Asphyxial Stage by Cold Applications to the Thorax.**—At a recent meeting of the Société de médecine et de chirurgie pratiques, a report of which appears in the *Journal de médecine de Paris* for October 18th, M. Saint-Yves Ménard stated that he had employed this treatment in the case of a child who was suffering from whooping-cough. The patient presented an intense pulmonary congestion, with dangerous symptoms of asphyxia. The rectal temperature was 101.6° F., the pulse 138, and the respiration 66.

As the symptoms of asphyxia were so alarming, the author covered the patient's chest with cold compresses, which were removed every fifteen minutes. This treatment was continued during the night, and on the following morning the patient was much better. The number of inspirations fell to forty-four, the dyspnoea almost completely disappeared, and the patient recovered.

M. Saint-Yves Ménard thought that in this case the treatment was certainly the cause of recovery. It acted in two ways, he said; first, by withdrawal of the heat; second, by revulsion. It had, furthermore, the power of producing a really extraordinary quieting effect, and was more easily employed than cold baths.

**The University of the State of Missouri.**—Dr. B. Meade Bolton, late of the Philadelphia Bureau of Health, has been appointed professor of bacteriology and pathology.

**The Management of Patients.**—The *Lancet* for October 17th publishes an address on this subject which was recently delivered by Sir Dyce Duckworth before the Lammington Medical Society. One of the main

objects, says the author, in successful management of the sick is to secure the patient's confidence. The psychical influence of the mental attitude thus established is one of enormous, though little understood, value in all therapeutic efforts. It is the attitude which best promotes recovery, and we gladly co-operate with it. But all people have not faith in us or in our art. The qualities of faith and trust are absent from some minds or but little developed; and not seldom do we meet with this distemper in the most subtle and highly trained minds. He regards such a condition (*anurria*) either in respect of worldly or spiritual concerns as a mental flaw somewhat akin to color blindness. We find some persons rejoicing in this disability, while others bitterly regret it. In any case our duty is to act tenderly and to exhibit more, and not less, robustness of belief in our own skill and our art. Such conduct on our part is sometimes contagious and often actively inspiring in seemingly hopeless cases presenting this infirmity. This leads him to say that it is not our duty to pose at the bedside as scientific men. The physician is an artist whose skill is derived through various sciences from careful and accurate observation. He is, or ought to be, a human minister to the ills and needs of the sufferer before him, and not a pedantic professor of abstract physic. In thus endeavoring to secure the confidence of patients we are sometimes exposed to temptations to deviate from a strictly honest and honorable course. We know that such temptations are not always resisted by some men in our ranks, and an easily acquired popularity and a measure of success may be thus achieved. The author says he has, however, lived long enough to learn that such a course never succeeds in the long run, and he sometimes looks back and sees those who once "flourished like green bay trees" now discredited and left far behind. Confidence may be gained, and is always strengthened, by a close and careful attention to the minutest details of the case before us. All hesitation and appearance of uncertainty is to be strenuously avoided. A medical man who can not keenly regard his patient, eye to eye, with firmness and directness, is hardly likely to succeed. And no less must he similarly regard all persons, relations, friends, or nurses, who are dependent on, and should be trustful of, him. With this must be associated gentleness, promptness of decision, a power of command, and a perfectly disciplined temper. All these qualities are requisite in those who have to guide and lead others—naval or military qualities we may call them—but always without any of the overbearing conduct of the martinet. Brightness and cheerfulness, without levity, are always of value in enlisting the sympathy of the sick, and the inlet of a little wit or humor on appropriate occasions does more good than some remedies. Many men of excellent ability and professional skill fail to impress their patients favorably because they lack all sense of humor, and have no power of command or of methodical adaptation of means toward the end in view. Their bedside manner is bad. They make their diagnosis and prescribe, but the patient and the attendants are left in uncertainty both as to the exact opinion formed and as to the precise methods enjoined by the practitioner. Casual directions, with permission to do this or that, or to take this or that, fail to impress anybody, and the result is unsatisfactory. Dogmatism, founded on sound principles, is as good for patients and their friends as it is for students in the lecture room. We must be definite and we must be lucid.

In meeting the ignorance and prejudices of the poor we have to be gentle and forbearing, to show them a more excellent way, and to win them by close personal attention, which is always irresistible. Hospital discipline is beneficial to many of them, and it often reveals, for the first time in their lives, the happiness of having to do what they are told and not what they like. In combating the prejudices of patients who, though not well educated, are not ignorant, it is well to recognize—or, if not, at least to assume—that they have studied the subjects on which they hold strong opinions.

It is sometimes possible to manage a willful patient by falling in with his views so far as is not inconsistent with the best interests of his case. Such a man will occasionally submit at once to treatment on lines which commend themselves to him and on no others. If the proceeding is in no way detrimental and not distinctly contraindicated, we may now and then thus temporize and lose no hold on the patient, whatever be the issue. He will probably in the case of failure readily submit to more orthodox treatment.

A wide knowledge of our common humanity in all its aspects and workings is of much assistance in managing different classes of patients. It is necessary to know how our several patients live, to know how they spend their days, how they eat, drink, work, and amuse themselves.

In prescribing for the poor, he says, we take into consideration what they can procure and appreciate; in prescribing for wealthy and refined patients we must be acquainted with their habits and customs, otherwise we lose their confidence and fail in intelligent management of them. In regard to prescribing medicines, he thinks that many young physicians err in two directions. They either administer drugs in tabloid form or they compose a prescription whose flavor would disgust even a South Sea Islander. There is now no excuse for exhibiting distasteful medicines of any kind, and it is hardly to be wondered at that some patients absolutely refuse to take them, and are thereby shaken in their confidence in the skill and art of their advisers.

The question of consultation, says the author, in grave or puzzling cases is one which occasionally has to be met, and there should be no hesitation in yielding to the desire for a second opinion in many cases which are but slowly amenable to treatment, in which the patient himself is anxious to have further advice. Inspiration and satisfaction are nearly always derived from such consultations, and it is well to show that there is no fear of criticism in regard to what has been done. Confirmation can only increase the patient's confidence and enable the physician to conduct his cases more satisfactorily in all respects. To share responsibility in the treatment of grave cases is always a relief to men who are duly impressed with the seriousness of their calling.

It is not always easy to steer clear of difficulties with the better class of patients. Many of them are disloyal to their advisers, and use them as much or as little as they choose. A physician must always exhibit the courage of his opinions and stand firmly by what he believes to be right against all allurements and any fear of giving offense. He has to learn to be "all things to all men" without making any sacrifice of right principle. This can be done and is done every day by those who have well acquired the art of managing their patients.

It is often a great advantage to be skilled and interested in matters outside our own sphere of work. Such knowledge and dexterity themselves often open the door



to men whose professional knowledge may not be of the highest, but who commend themselves honestly and pleasantly on other grounds to their patients. They will often succeed better than the solemn medical drudge who is learned in the last new methods and reads little beyond medical journals and medical literature, old and new. The author does not in any way deery the constant study of all that happens in our profession; we must maintain that and do more. We should have some hobby of our own, peruse varied literature, and have wide interests in men and things. We shall thus be better equipped and come with brightness and freshness, as well as with "healing in our wings," when we approach the bedside of the sick and ailing.

Traveling is of value in widening our interests and sympathies and enlarging our knowledge of humanity, and it thus enhances the value of our opinion both on medical and other subjects. With all this we need yet more. We have to be circumspect and worthy to retain inviolate the private confidences committed to us. "*Quod tacitum velis, nemini dixeris*" is a motto to be ever before us. Grave matters relating to our patients are often within our knowledge. We note them and seal them up from the busy, inquisitive world around us. Modern society, with its prying and impertinent agents of the press, would have us yield up many secrets confided to us, and then, after gossiping over them, prudishly cry shame on us for disclosing them. Some few among us are easily seduced and trapped by the wiles of the newspaper man, some innocently, but others only too willingly. We should know but one rule in this matter, and it is this: to show such persons outside our doors, politely but firmly and promptly. In this manner we may yet hope to save for our profession some shreds of respect in these terrible days of publicity and mawkish sentimentalism. The bulletins relating to patients which appear in newspapers are now not seldom so impertinent and improper that they constitute a heavy disgrace to such men as issue and sign them, and yet there is no kind of difficulty in checking this unseemly procedure. Such conduct drags down our calling to the rank of advertising tradesmen, and small wonder if decent people seek to belittle it.

**Progress at Craig Colony during the Eight Months since the Opening.**—This is considered to have been the crucial year in the evolution of Craig Colony. All the buildings which were in the Shaker settlement at the time of its purchase by the State for dependent epileptics have been thoroughly remodeled and put into complete order for the reception of patients. A perfect system of water-supply, sewerage, plumbing, heating, and electric lighting has been completed, and on February 1, 1896, the colony was informally opened for patients. A hundred and forty-nine patients have been received thus far, and as soon as the hospital building, now in course of construction, is completed and the west group of buildings provided with heating apparatus, the accommodations will be ready for a population of over two hundred epileptics. In spite of the shortness of the time that has now elapsed since the opening of the colony, two very important facts have become evident: first, that remarkable improvement has taken place in the condition of the patients admitted; and, secondly, that the economic success of the scheme is assured.

**The Effect of Colony Life on the Patients.**—Nearly every patient has gained in weight and in general health. In all cases the epileptic seizures have diminished in

frequency to a marked degree, and in some instances this diminution has been even extraordinary. The expression of the inmates has altered so that, instead of the dull, hopeless look of the almshouse epileptic, one sees on all sides happy faces in which intelligence and hope are being reawakened. The school has been successfully started for fifteen or twenty of each sex. Much of the printing of the colony is now done by two or three epileptics in the colony's own printing office. Carpentry, sewing, painting, etc., are being carried on by the patients. They have their own epileptic blacksmith. Naturally the great work of the inmates of both sexes is in the field and garden. Eighty-three per cent. of the males and seventy-six per cent. of the females have given eight hours' daily labor. This labor has had a great effect upon the income of the colony, demonstrating

**The Economical Value of the Scheme.**—From the report of the superintendent and steward for the year ending September 30th we learn that the products of the farm and garden for the year amounted to \$14,230.20. The cost of maintenance of patients from the date of opening, February 1st, to October 1st was \$28,258.24. The colony has therefore actually produced already one half of the cost of maintenance. Appropriations are asked for this year to increase the productivity of the agricultural department especially, because upon this the economic success of the scheme depends so largely. At the same time, there is most urgent need for accommodations for the hundreds of patients seeking admission. There are nearly a thousand patients still a public charge in the almshouses, insane asylums, and various charitable institutions who need to be provided for at Craig Colony. The managers will ask the Legislature to provide, this coming year, dormitory accommodations for at least three hundred more patients.

**The Influence of Alcoholism on the Growth of Children.**—At a recent meeting of the Académie de médecine, a report of which appears in the *Presse médicale* for October 14th, M. Lancereaux reported two cases which had come under his observation. The first was that of a child thirteen years old. From the age of three years she had taken fifteen ounces and a half of wine a day. At nine years of age she had had typhoid fever followed by purulent pleurisy and pneumonia, and since then had coughed continually. The abdomen had enlarged and the patient had suffered from cramps at night. She had had several attacks of epistaxis. When the author saw her she complained of a tingling sensation in the extremities, of nightmare, and of catarrh. She was no larger than a child of nine years; she was thin and pale, and showed no sign of puberty; the heart was large, and the abdomen, which was very large, was distended with flatus; there was also ascites. The liver and spleen were large, and the urine presented albumin. During the patient's stay in the hospital she showed uræmic symptoms. Under the influence of a milk diet the liver and the spleen diminished considerably a year after her admission, but she did not grow.

The second observation related to a child fourteen years old. When she was twenty months old her mother had given her wine, and from the age of two years she had taken from a pint to a quart of wine a day. When she was eight years old digestive troubles had occurred and, to strengthen the child, her mother had increased the quantity of wine. At six years of age she had had



nightmare and cramps, and the abdomen had begun to enlarge. At the present time she was of about the size of a child of six years. Her height was about thirty inches; her head was small and the expression childish, but she was very intelligent. The thyroid gland was very small, and the thorax was retracted at the upper part and enlarged at the lower part, which was due to the development of the abdominal organs. The abdomen was very large; there was ascites with an abnormal development of the abdominal subcutaneous veins. The heart, liver, and spleen were large. The patient passed a pint of albuminous urine every day. Digestion was badly performed, and the lower limbs were atrophied and paretic. During her stay in the hospital she presented uræmic symptoms. She was placed on a milk diet, and the digestive troubles improved, but she did not increase in size.

M. Lancereaux stated that he had tried to reproduce these lesions by experimentation in two rabbits who were subjected to progressively increasing doses of wine. One had died at the end of twenty days, without presenting any visceral alterations. The other had died after thirty days, and presented hæmorrhage of the stomach. The liver was of a pale grayish color, and the spleen was tumefied.

The histological examination demonstrated traces of an irritating influence in the liver, which were found principally in the central parts of the lobes. The connective tissues of the portal spaces did not present lesions that were very clear, but the subhepatic veins and the capillaries were filled with leucocytes and proliferated endothelial cells. The glandular parenchyma was remarkable for the considerable size of its nuclei, which were vesicular; the cellular protoplasm seemed to be intact.

M. Lancereaux thought it was impossible, in view of these observations, to deny the injurious influence of alcohol on the growth of children, and he said that this was one of the causes of degeneration and depopulation which physicians should energetically fight against.

**The Preparation of Blood for Microscopical Examination.**—In the *Medical Record* for October 17th, Dr. Henry G. Piffard alludes to a branch of blood examination which, he says, is exciting at the present time an increased and well-merited interest. This is the preparation and examination of blood spread in a thin layer and dried on cover glasses.

Blood films are studied from several standpoints and with several distinct objects in view. These are chiefly: To determine the presence or absence of malarial plasmodia; to ascertain the presence or absence of the eosinophile, neutrophile, or basophile granules of Ehrlich; to observe changes and abnormal appearances in the leucocytes and red corpuscles; and to determine the presence and kind, or absence, of micro-organisms. In all these cases the manipulation is substantially the same, with the exception of the stains to be employed.

It is this technics, he says, which he desires to describe in the fullest detail, and with special reference to the slide, the glass cover, the needle, the forceps, the spreading of the film, the fixing and dehydration of the corpuscles, the staining, the mounting, and the optical apparatus, and especially the condenser and objective.

He states that the most satisfactory slides he has been able to obtain are those furnished by Zeiss, at three and a half marks a hundred. These are cut true to size (seventy-six millimetres by twenty-six millimetres), are of

good glass, and are easily cleaned for use with a drop or two of alcohol and a piece of Canton flannel. Zeiss also supplies slides of plate glass at double the price mentioned, but these it is almost impossible to clean with either alcohol or acid. The slides chosen should be of medium thickness. Very thin ones were formerly of service when attempting difficult resolution with extremely oblique mirror illumination. With a substage condenser, however, extreme thinness of the slide is not only unnecessary but undesirable, especially in high-power work. The majority of modern microscopes that are pretended to have any degree of excellence are provided with substage condensers, either N. A. 1 achromatic, or N. A. 1.20, or 1.40 Abbe. Now, these apertures are possible only when there is a layer of cedar oil between the condenser and the slide. The principal microscope makers list their condensers as having the apertures mentioned, but not one of them, so far as he is aware, has the honesty to state that these apertures exist only when they are used with oil immersion, and that when used dry, as is usually the case, the numerical aperture is very much less. If, now, the observer desires to employ an immersion objective of high aperture and to work it at its best, he must put oil on the condenser and focus it for critical illumination. If the slide is an exceedingly thin one, in bringing up the condenser to keep the oil in position he will project the flame image above the plane of the object under examination. If the condenser is now depressed so as to make the flame image coincide with the object, the oil is apt to run out, especially if the microscope is inclined. The condensers are constructed to work with slides of medium thickness, and such slides are the only ones that should be used.

Cover glasses should be selected with great care. Square ones should never be used in the preparation of blood films, because it is exceedingly difficult to obtain a good smear, and it is almost impossible to mount them in a satisfactory manner for permanent preservation.

The most convenient size of round glass will be either three quarters of an inch or eighteen millimetres. American dealers supply the covers in four grades, according to thickness—namely, Nos. 0, 1, 2, and 3. The first two are altogether too thin for general use and should not be used under any consideration. A great deal of blood work can be done better with dry lenses, and the non-adjusting dry lenses in common use are corrected by their makers for a certain definite thickness of cover glasses; and if a thinner one is used, the image obtained will be imperfect. The cover-glass thickness will be found, therefore, to play an important part in blood examinations.

The next step, continues the author, is the proper cleaning of the covers. A small glass dish should be partly filled with battery fluid (water, nine ounces; bi-chromate of potassium, one ounce; sulphuric acid, one ounce), and into this the covers should be dropped, one by one, so that both sides of the cover may be wet by the fluid. After remaining in this for twenty-four hours, the acid is poured off and the covers are flushed *en masse* two or three times with water. Then each should be taken separately and dropped into a dish of distilled water, from which they are to be transferred, singly as before, to alcohol (preferably pure methylic). A most convenient receptacle for the alcohol and covers is a one-ounce, square, screw-capped bottle, in which they may be kept until needed for use.

A very convenient instrument for drawing the blood is a small, straight, surgical needle, several of which

should be kept in a phial of alcohol until needed. For two years or so he has used needles made from an alloy of one part of iridium and two parts of platinum. When required for use the needle is sterilized at a white heat immediately before and also after use. The blood may very conveniently be taken from the tip of the finger, though some writers insist that it is better to draw it from the lobe of the ear. In either case the part should be thoroughly cleansed.

Two forceps are required. One should be of the self-closing variety, with flat, broad points, and with a spring sufficiently stiff to hold the cover firmly against moderate traction. The other may be of any sort that will hold the cover nicely.

A sufficient number, say six or eight, of the covers are removed from the alcohol, thoroughly dried, and laid upon any suitable support, projecting a little beyond it. One of the covers is seized with the self-closing forceps and placed ready at hand. The puncture is then made, and another cover is quickly taken with the second forceps and applied to the droplet of blood as it issues from the wound. The second cover is then laid on the first, and the blood spreads out between them. A common fault with beginners is taking up too much blood; but this will be corrected after a little practice. As soon as the film is spread, the projecting edges of the upper cover are taken between the thumb and the index finger, and the covers are gently slid apart, care being taken to keep them parallel until they are entirely separated. The two covers, with films up, are now laid on a piece of paper to dry, and a second pair are prepared in the same manner. If more than four covers are desired, a fresh puncture should be made. As soon as the films are dry they may be placed in a small envelope and properly labeled. If they are stored in a dry place, they will remain unchanged for a long period. It is better, however, to fix them immediately. If water or any staining fluid was to be applied before fixing, most of the corpuscles would be washed off the cover, and from those that did remain the hæmoglobin would be removed, leaving only the invisible stroma.

With regard to fixing the corpuscles, says Dr. Piffard, the best method, and one which his own experience leads him to prefer, is with heat, rather than any of the other methods that have been employed. For the past year, for this purpose, he has used an electric heater controlled by a rheostat. The covers are heated gradually to about 225° F. and then maintained at this for an hour or more. When the covers are taken from the oven they are allowed to cool gradually and thoroughly before staining.

When ready to stain the covers, they are placed film up on a plate of glass, and covered each with the eosin solution. This is left on for two or three minutes, and washed off with distilled water. When the covers are dry, the methylene-blue solution is applied in the same manner; and when this is washed off and the covers are thoroughly dry they are ready for preliminary examination.

The microscope is arranged vertically, with a clean slide on the stage, and the cover is placed on it, film down and without any intervening medium. Alongside of it, if it is desired, another cover is mounted in balsam and the two are compared. The difference between the two is so striking and absolutely in favor of the dry cover that Dr. Piffard thinks the balsam would be rejected for this purpose. This examination must, of course, be made with a dry lens. A No. 7 Leitz answers very well, but an eighth of an inch or a tenth of an inch objective,

with a numerical aperture approximating 0.90, is still better.

If the examination with the dry lens does not give all desired information, and a further examination is desired with a higher-power immersion, it will be necessary to attach the cover permanently to the slide.

If blood covers are to be mounted to the best advantage, the first step is to procure a turntable. The slide is carefully centred on this, and a thin ring of shellac or other suitable cement spun, corresponding to the size of the cover; a second coat may be applied a few minutes later. A number of slides are prepared in this way, and left for twenty-four hours or more to dry.

When the slides are ready for use, one is taken and held over a flame for a moment or two to expel all surface moisture and to soften the cement a little. The cover in like manner should be flirited over the flame, to expel all moisture from its surface. It is then applied to the cement ring, care being taken to have contact at all points of the circle. When entirely cold, a fresh ring of cement may be spun around the cover, so as absolutely to seal it at every point. The slide is now ready for examination in any manner, and with any dry or immersion lens.

It matters not, says the author, whether we are studying the changes in the leucocytes, hunting up the various granules of Ehrlich, or searching for the elusive plasmodia, the optical picture will be vastly superior and much more instructive than any we can obtain in balsam mounts.

In regard to the substage condensers, he continues, if circumstances restricted him to the use of a single condenser for all purposes, he would choose an achromatic N. A. 1, which may be obtained of excellent quality from Zeiss, Bausch & Lomb, Watson of London, and other makers, costing perhaps ten or twelve dollars more than the customary Abbe. With dry lenses, except those of the very widest aperture, it should be used dry—that is, without oil between the condenser and the slide. By so doing the nominal aperture will be impaired about a third, and thrown a little off its corrections; but even then it will be better than any of the Abbe construction. If used in connection with immersion lenses, oil contact should be used, so as to secure the full aperture. If circumstances permit the expenditure, an additional achromatic of N. A. 1.30 to 1.40 should be added; and for low-power work, an achromatic of low aperture, say N. A. 0.60 to 0.75. In regard to the Abbe condensers that are in such general use, it may safely be said that they are a vast improvement on simple mirror illumination, that was almost the sole dependence before Professor Abbe introduced his simple device. The low cost has undoubtedly been the chief means of its wide introduction, but as an optical instrument of precision it is decidedly inferior to an achromatic of approximate aperture.

Through force of circumstances, fully nine tenths of the laboratory workers employ diffuse daylight as an illuminant, and for the great mass of work to be done it is amply sufficient and satisfactory; but for the most delicate work a well-arranged artificial light is preferable.

At the present time, says Dr. Piffard, the blood offers one of the most inviting fields of investigation, as an aid both to diagnosis and to therapeutics; and he strongly urges on those who design to take it up to pay the strictest attention to what at first may appear to be unimportant technical details.



## Original Communications.

### THE BEST METHOD OF TEACHING OBSTETRICS.\*

By JAMES CLIFTON EDGAR, M.D.

It is a little more than seven years ago that our honored fellow, Dr. Theophilus Parvin, at the thirteenth annual meeting of this academy, made, as the majority of us will recollect, a most earnest plea for practical obstetrics in the courses of instruction given by our medical colleges. It was then clearly shown by him that while the science of obstetrics was admirably taught in many of our American medical schools, the art of midwifery was and had been sadly neglected; that the vast majority of American medical students graduated each year without ever having witnessed, still less having had charge of, a case of labor; that in many medical schools not even the practical diagnosis of pregnancy by palpation and auscultation was taught.

The truth of these statements has never been questioned. Up to that time it had been customary in this country for most medical students to graduate either without any practical knowledge of midwifery, or with such only as they were able to obtain by witnessing an occasional case in a clinic, or possibly by treating women in confinement in their own homes without the supervision or aid of an instructor.

The result was inevitable. The art of obstetrics was learned by the young practitioner often at the expense of serious if not fatal injury to his first confinement cases. During the past decade a revolution has been in progress in the teaching of medicine in this country. The two- and three-year courses are gradually but surely being replaced by four years of instruction; college terms of five, six, or seven months are being lengthened to eight and even nine.

The haphazard theoretical or didactic teaching of the old two-year course has already been largely supplanted by systematic recitations and practical and thorough laboratory instruction. The clinical instruction to large audiences of former years is generally supplemented by practical clinical work performed by small sections of the class. In many medical colleges it is undoubtedly still customary to cling to the old form of lecture delivered to large audiences. It is, however, gradually but surely being replaced by systematic graded courses of practical and clinical instruction.

Has the subject of obstetrics, usually classed as the last of the seven fundamental divisions of medicine, kept pace with the remaining six in this reform? To a certain extent, yes. As to the question whether it has

advanced with the same rapidity as the others, we are compelled to answer in the negative.

The history of medical progress in the past few years certainly points to some reform in the teaching of the art of midwifery, shown in marked improvements in the matter of instruction in colleges already possessing lying-in departments, and in the establishment of new institutions whose main purpose is the imparting of practical instruction, not only to the undergraduate student, but to the graduate physician as well.

Ten years ago not a single medical school in New York city, for instance, required its students even to witness cases of confinement before graduating. At that time there were nine institutions in New York either wholly devoted to lying-in patients, or with lying-in departments attached, and in none of these was systematic instruction in obstetrics given. To-day six medical schools require that each student before graduation shall have attended at least six cases of confinement, and there are some thirteen institutions devoted wholly or in part to obstetrics, five of these giving systematic instruction to students in midwifery.

In spite of these facts, there appears to be no doubt that the teaching of obstetrics generally, throughout the country, is at this time anything but what it should be, and that "clinical instruction is largely conspicuous by its absence."

"The number of great maternity hospitals in this country in which students can receive practical training can be numbered on the fingers of one hand. As a country we are far behind in this matter."\*

The best method to teach midwifery can not be described under any single method, but must, of necessity, be a combined method—a system—a combination of recitations, demonstrations, manikin practice, attendance upon clinics, practical bedside or hospital work, and theoretical lectures, the teaching of the science and art of obstetrics. The classified knowledge of the laws which govern menstruation, ovulation, pregnancy, labor, the puerperium, and obstetric surgery on the one hand, and the intelligent appreciation and practical application of the acquired classified knowledge at the bedside on the other.

Although history tells us obstetric science has had a tardy development, that not until the sixteenth or seventeenth century was it fully established, still, from an educational standpoint, the science has far outstripped the art in the race. May the time soon come—and the indications point to its being not far away—when both shall be equally well taught.

The natural and, as experience teaches us, the best sequence for the student to follow is for him to acquire a working knowledge of the science of obstetrics before he applies himself to the art. This he does in his recitations,

\* Read before the American Academy of Medicine, Atlanta, May 4, 1896.

\* Mann. President's Address. *Transactions of the American Gynecological Society*, No. 20, 1895.



clinics, and demonstrations. Further, we believe it advisable to defer the taking up of the general subject of obstetrics until the pupil has had at least one year's instruction in the medical school, especially in physiology and anatomy. Without this preliminary study the student can not profitably or comfortably digest instruction in the elements of the physiology and pathology

Whatever may be the place of topographical anatomy in courses of anatomy *per se*, its consideration should come early, at the very beginning, in a course of obstetric teaching. It is in a high degree necessary that the pupil shall have mastered, by the time he enters upon his obstetric training, not only the size, shape, and consistency of the normal lower abdominal and pelvic organs, but the relations in space which such organs as the labia, clitoris, meatus urinarius, and hymen, together with their glands, blood-vessels and nerves; the uterus and vagina, kidneys, ureters, bladder, and urethra; the sigmoid flexure, rectum, and anus; abdominal aorta, ovarian, external and internal iliac, and uterine arteries; ovaries, Fallopian tubes, and ligaments of the uterus; pelvic muscles, peritonæum, glandular, vascular, and nerve supply, sustain to one another. If in addition the student has mastered the elements of histology, then, and only then, can he be considered fully equipped to receive elementary instruction from the department of obstetrics, and the head of this department is then free, as he should be, to direct his whole energies to the work which he has been appointed to undertake. After this, the pupil's work in obstetrics should be so systematized as to blend progressively with the work of his remaining three years in the medical school, and render him at the end of that time not only capable of answering the few simple questions found to-day upon the final or State examination paper, but fully competent as well to care intelligently for women in normal labor, and at least to recognize, if not meet, the ordinary complications of the lying-in state, labor, and pregnancy.

Experience has taught us that this end is most surely and thoroughly attained by pursuing some such plan as the following, in the sequence named:

I. Systematic biweekly or triweekly recitations during the second college year.

II. (1) Demonstrations and manikin work; (2) attendance upon obstetric clinics; and (3) laboratory work during the third collegiate year.

III. A resident service in a maternity hospital, which shall include (1) the examination of pregnancy under competent instructors; the actual confinement of patients by the student himself, under rigid supervision in both; (2) "ward" or indoor service, and (3) "out-door" or polyclinic service; (4) the attendance upon the obstetric clinics of the hospital; (5) theoretical lectures (illustrative in character); and (6) recitations subsequently upon the previous practical work performed by the student.

IV. Theoretical lectures (illustrative in character) upon advanced obstetrics.

#### I. SYSTEMATIC BIWEEKLY OR TRIWEEKLY RECITATIONS DURING THE SECOND COLLEGE YEAR.

Attention has been called to the unfortunate custom still prevalent in many medical colleges throughout this country to teach obstetrics to large audiences by means

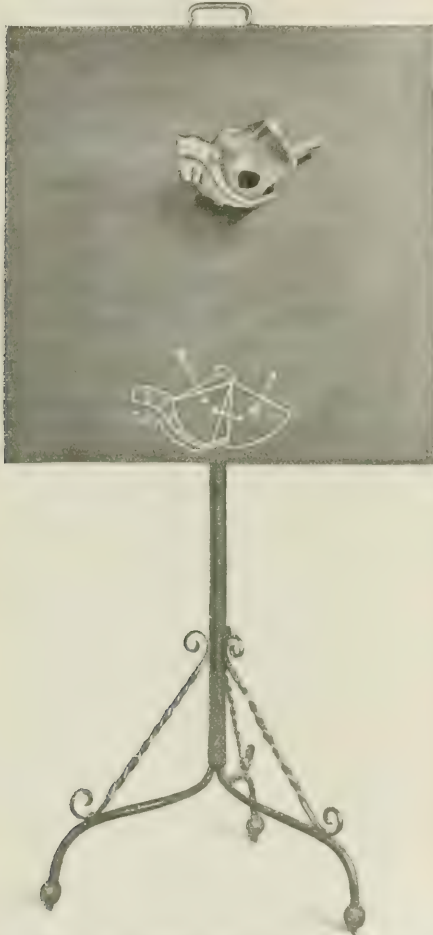


FIG. 1. Vertical mesial section of the bony pelvis cast in aluminum and mounted by means of a hand screw upon a blackboard and tripod. The bodies of the lumbar, sacral, and coccygeal vertebrae are outlined and numbered. The hand screw permits the cast being set at any angle. An outline of the bony pelvis showing the axis of the pelvic inlet and those of the bony and parturient outlets is permanently sketched upon the blackboard below. (From a photograph.)

of the puerperium, delivery, and pregnancy. He must be familiar with the characters of the various tissues of the hard and soft parts concerned, to which constant reference is made in his recitation year, in terms of microscopic and histological anatomy.

of the didactic or theoretical lecture. Within a few years the attempt has been made by certain institutions to

ject so readily attained as in obstetrics, since the underlying principles of the subject for the most part rest upon the well-known laws of anatomy, physiology, and physics, all of which permit a wide range of illustration.

No department of obstetrics is to-day complete without such means of illustration, and it should be the instructor's duty to make such intelligent use of them as to supplement the labors of the head of the department, relieve him of much of the theoretical work, and, at the same time, better prepare the student for an intelligent appreciation of his subsequent demonstration work, attendance upon obstetric clinics, and finally for his residence in the maternity hospital.

The instructor will do well if, at the beginning of the session, he lays out a schedule for his entire course, gauging his hours of recitation so as to cover the entire field of the subject in the teaching year.

There should be plenty of blackboard space at his command—pelves entire, sagittal and transverse sections of the same, diagrams and charts, carefully selected models, wet and dry preparations, and the more common obstetric instruments.

With a little ingenuity and forethought each individual member of a section of say twenty students may be tested regarding his appreciation of the subject in hand during the recitation hour.

This is readily accomplished by assigning a portion



FIG. 2.—Pelvis and blackboard of Fig. 1 used to demonstrate forceps applied to fetal head at the pelvic inlet and dangers that result from the faulty position of the handles and traction in this wrong direction. (From a photograph.)

supplant this lecture course wholly or in part by the recitation. Since the introduction of this latter method of teaching the shortcomings and faults of the old didactic lecture, still generally in use, have become more than ever apparent. Moreover, the contrast of the two systems has resulted in benefit in quite another way, since it has markedly changed the character and tone of the theoretical lectures which still exist as supplements to the recitational and practical work, raising them to a higher plane, giving them a more practical and illustrative form, and thus making them in every way more helpful to the student.

Although the advantages of the recitation system are more perceptible each year in the better qualified graduating classes, still, we believe the recitation, so far as obstetrics is concerned, can be made of still greater value and interest to the student, even though the instructors be comparatively young men.

It is not sufficient that the section of twenty or thirty pupils be required to learn and recite in a perfunctory manner the principles and laws of obstetric science as set forth in some good text-book in biweekly or triweekly recitations, but these principles and laws must be brought home and rendered real and interesting to him by abundant illustration.

Perhaps in no other branch of medicine is this ob-

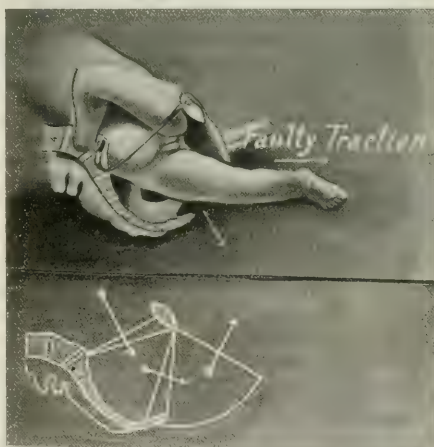


FIG. 3.—Pelvis and blackboard of Fig. 1, showing breech presentation with left buttock caught at the pelvic inlet and the dangers of faulty traction on the prolapsed leg in a horizontal plane. (From a photograph.)

of the section to the blackboard, to execute there a diagram, enumerate a series of principles, or write definitions, which are subsequently criticised by the instructor. Another squad is assigned to a number of wet and dry specimens conveniently placed on trays, which the student, after a time given to look them over, is called upon to demonstrate.

Among the wet specimens of especial use at this time are placentae with membranes and cord attached and preserved in alcohol or formalin; ova of the first few months to demonstrate the transition from chorion to placenta, the amnion, the umbilical vesicle, and so on; a uterus showing the decidua of menstruation, another the decidua of pregnancy; also a collection of preserved embryos and fetuses, all of which the student shall be required to inspect or measure, and describe not only the gross appearances and characteristics, but also the chronology of each. Any or all of these specimens the pathologist of a maternity or large general hospital may readily secure.

The dry preparations may include mounted placentae, injected through the vessels of the cords with different colored material or corrosive preparations of the same. These may comprise the normal conditions of the vessels and departures therefrom.



FIG. 1. Pelvis and blackboard of FIG. 1 used to demonstrate sling applied to the breech and faculty direction of traction theorem. Position of doublebushing for breech extraction also illustrated. (From a photograph.)

Still another squad is in the same way assigned to carefully selected models, and the remainder of the class is then questioned upon the subject of the day, enough of the latter part of the hour being reserved for demonstrations and criticisms of those assigned to the blackboard, specimens, and models. Such a plan is by no means difficult to carry out, as experience will prove.

Regarding the models, there is practically no limit to their number, as we show in another place (demonstrations and manikin work), but perhaps the most useful of them all at this time will be found a sagittal section of the pelvis, cast in aluminum, and so mounted upon a portable blackboard as to allow of being fixed in the proper planes of both dorsal and upright positions.

Nothing has been of greater aid to us than this

contrivance, since, with chalk, pelvic planes, angles, curves of bony pelvis, and parturient canal may be clearly demonstrated.

We can not too strongly urge the importance and the benefit to the student of actually handling the wet and dry preparations, pelvis in whole or in part, models, and instruments used in the recitation.

To illustrate the foregoing, take the subject of pelvic deformity, for example. Five students are assigned to manikins with the sacral promontories set to give true conjugates from three inches and three quarters to two inches and a half. A pelvimeter is at hand, and the students are asked to state, after examining the diagonal and true conjugates, the difference between these, the factors influencing this difference, the effect on labor of the contracted pelvis, and the necessity for interference.

Among another squad of five pupils are distributed five copper-plated models of moderate pelvic deformity, and by means of a pelvimeter the students are requested to find the more important diameters, and finally to state the probable cause of deformity, and the effect upon labor of the same.

Still another squad of five pupils is assigned blackboard space, one to enumerate the principal pelvic diameters and their usual lengths, another to demonstrate the three conjugates of the pelvic brim, another the more common kinds of pelvic deformity, another the causes, and still another the methods of delivery.

The remainder of the section can now be quizzed upon some special branch of the subject—for example, the relation between pelvic contraction and malpresentation, position, and attitude, as illustrated by means of models in sagittal and transverse sections; and, lastly, the work of each individual student is inspected, and if necessary criticised, the whole section being appealed to for opinions on difficult points.

## II. (1) DEMONSTRATIONS AND MANIKIN WORK; (2) ATTENDANCE UPON OBSTETRIC CLINICS; (3) AND LABORATORY WORK DURING THE THIRD COLLEGIATE YEAR.

Not even at this time in the student's course is it practical or advisable to attempt to handle classes that exceed thirty.

It is desirable that the position of instructor in obstetrics take on more the nature of a demonstration of obstetrics; that his department consist of a combined museum, manikin, and recitation room, furnished with a generous supply of manikins, models, embryological, anatomical, and pathological wet and dry specimens, charts, diagrams—in short, all the recognized aids to obstetric teaching.

In such an obstetrical laboratory the recitations and demonstrations should be conducted to small sections of the class as above described.



### 1. Demonstrations and Manikin Work.

So far as the demonstrations and manikin work go, biweekly or triweekly meetings, for a period of six to eight weeks, will pretty thoroughly cover the ground.

It is well for the instructor to aim in this section work not only at a systematic course in manikin work, but also at the same time a review of the theoretical work gone over in the second year, giving it, so far as possible, a practical application. This, with a little attention, can be readily accomplished.

The models may be of plaster, or *papier-maché* reproductions of plaster and clay, copper-plated models, or composition, or of a miscellaneous character. With them the parturient canal with its curves; the mechanism of cervical dilatation in primiparæ and multiparæ; the size and shape of the uterus at the several months of gestation; the degrees of uterine, vaginal, and perineal ruptures, and methods of the repair of the latter; involution of the puerperal uterus, as shown in a series of *papier-maché* reproductions of frozen sections; the various forms of pelvic deformity; the action and use of various cervi-



FIG. 5.—Pelvis of Fig. 1. Manual method of measuring the diagonal conjugate. (From a photograph.)

Here again, with a little ingenuity, most, if not all, of the section or squad may be assigned some task to perform during a given hour, so that the student shall take as active a part as possible, leaving little of his time without some occupation.

Such demonstrations and manikin work will call for more apparatus, models, and specimens than was required in the recitations of the preceding year. An abundance of blackboard space is required as before; pelves entire, and in sagittal and transverse sections, must be constantly at hand; three or four good manikins, with a supply of puppets, foetal cadavers (preserved in formalin or alcohol), embryos, fetuses, placentæ, with their membranes in different stages of development, and carefully selected models for use alone and in conjunction with the manikins.

cal dilators; the intra-uterine tamponade; the puerperal curette; the ligature in cervical hæmorrhage; manual dilatation of the os, and many other obstetric conditions. (See *Aids in Obstetric Teaching*, to be published in a subsequent number.) We must insist, however, upon the recognition of the proper place of these models in obstetric teaching, and sound a caution regarding their use. They should be viewed as auxiliaries, as adjuncts, and as a better preparation for subsequent practical instruction; and care must be used that no false or exaggerated impression is conveyed to the student in their use. In another paper we shall describe in detail the manner of their production. As in the recitation system, the same general plan of assigning work may be employed, the student, however, being required to take a more active part.

Thus, by a general illustration and a demonstration form of instruction, much that heretofore has been more or less problematical may be cleared up, and new interest may be given to many obstetric subjects which, by reason of their obscurity and "dryness," proved stumbling blocks to the student, and later to the practising physician.

This is the time and opportunity given the student to acquire that manual training in obstetric procedures which may never recur until he is in active practice, and he should be made to appreciate his advantages.

It is at this time that he acquires the kind of training which gives to the intending physician the practice to make him intelligent and expert in the use of his knowledge; the kind of training which saves the newly

orrhage. Eight or ten students are assigned to manikins, in which are placed leather models of the puerperal uterus. Gauze, volsella, dressing, and needle forceps, needles and ligatures, and specula, all of which are part of the equipment of the department, are at hand.

Each student, with the assistance of a second, and under the supervision of the instructor, is required to pack the uterus with gauze (Fig. 7) and also place a ligature in the apex of the laceration in the neck of the model (Fig. 8). The models are then removed from the manikin, and the manner of gauze packing and the position of the ligature demonstrated and criticised by the instructor. Copper-plated plaster casts of the several degrees of vaginal and perineal lacerations are distributed to other pupils for inspection and subsequent

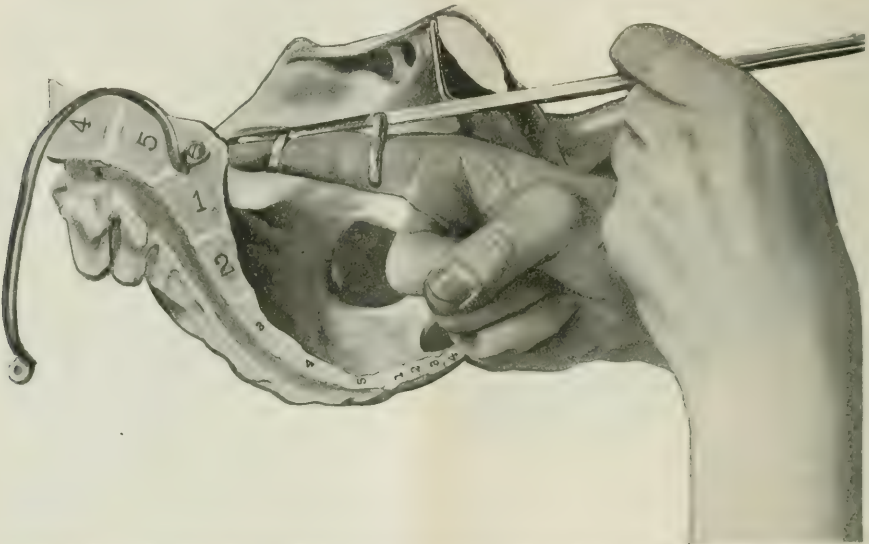


FIG. 6. Pelvis of Fig. 1. Instrumental method of measuring the obstetrical conjugate directly by means of Farabeuf's pelvimeter. From a photograph.

appointed hospital interne the mortification, in the presence of his seniors, of applying the forceps upside down; the kind of training which causes the interne or newly appointed instructor ever to remember that there is such a thing as a curve to the parturient canal, and that traction with the forceps applied to the brim or on a leg in high arrest of the breech, in a horizontal plane, quite possibly result in disaster to mother and child! For close observation will show that improper and faulty traction with the forceps has cost the lives of more mothers and children than almost any other obstetric operation, in proportion to its frequency. To impress this fact upon the pupil's mind, he must be made to see in what the danger lies. By means of such training the physician's first cases of confinement will be saved much that otherwise would be experimental and crude in the manner of treatment.

Take, for example, the subject of post-partum hæ-

monorrhage. Other students are assigned blackboard space to enumerate origin of hæmorrhage after delivery, mechanism and causes, and principles of treatment.

Such a course can not be considered complete without an occasional demonstration of the diagnosis of pregnancy upon the living subject. Cases of pregnancy may for this purpose be sent in from the dispensary of the institution or from a maternity hospital.

These demonstrations can be made a valuable preliminary to the resident hospital course to follow later. Information obtained by inspection, palpation, and auscultation can be interestingly dwelt upon by the instructor, and appreciated by the student.

## 2. Attendance upon Obstetric Clinics.

An occasional attendance at an obstetric clinic during this third year will be of the greatest assistance in fixing

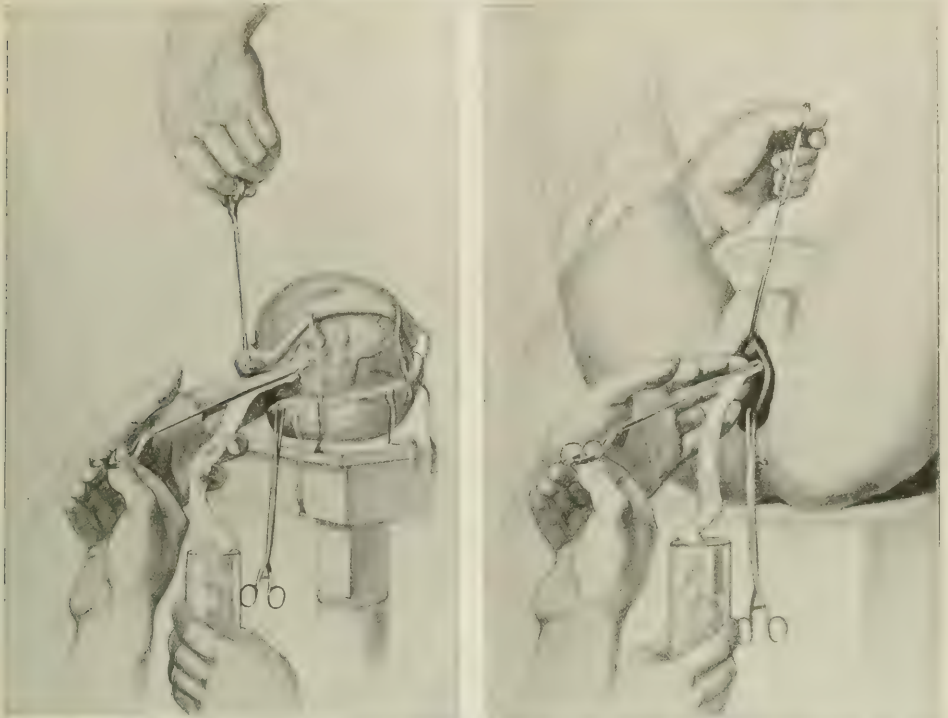


FIG. 7.—Leather model of puerperal uterus placed in manikin, and used to demonstrate packing of the puerperal uterus with gauze to control post-partum hemorrhage proper, or to secure drainage in atonic or septic conditions of the uterus.

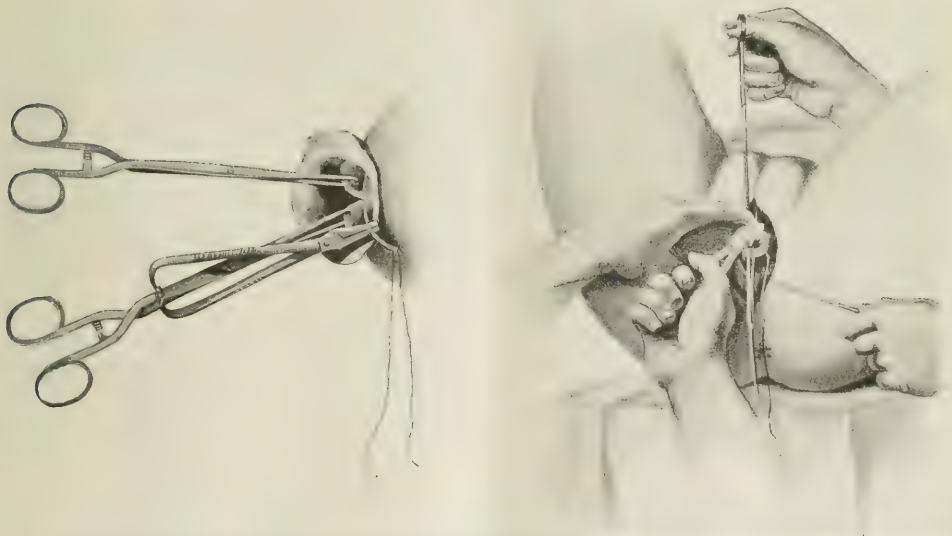


FIG. 8.—Leather model of puerperal uterus placed in manikin, and used to demonstrate treatment of post-partum hemorrhage due to a deeply lacerated cervix.



the theoretical work of the second year, and the demonstrations and manikin work the student takes part in at this time.

If possible, his time should be so laid out as to permit the student to attend over a stated period the obstetric clinics of the hospital, or until he has watched the delivery of several cases of confinement. If it can be arranged for him to take at this time his practice in the out-patient department of the hospital, in the examination and diagnosis of pregnancy, so much the better, for the student can then learn the preliminary principles of cleanliness, thus anticipating his resident service in the maternity.

### 3. Laboratory Work.

Provision should be made for those students who desire special opportunities to study histology, pathology, bacteriology, and embryology, that would not be obtained in the regular courses of the colleges they attend. Little time will be left for such work after the regular laboratory courses in histology, pathology, and bacteriology, consequently advanced research on the part of the student is best undertaken during the vacation intervals or after graduation.

III. A RESIDENT SERVICE IN A MATERNITY HOSPITAL, WHICH SHALL INCLUDE (1) THE EXAMINATION OF PREGNANCY UNDER COMPETENT INSTRUCTORS; THE ACTUAL DELIVERY OF PATIENTS BY THE STUDENT HIMSELF, UNDER RIGID SUPERVISION, IN BOTH. (2) "WARD" OR INDOOR SERVICE. (3) "OUTDOOR OR POLYCLINIC SERVICE. (4) THE ATTENDANCE UPON THE OBSTETRIC CLINICS OF THE HOSPITAL. ALSO (5) THEORETICAL LECTURES (ILLUSTRATIVE IN CHARACTER), AND (6) RECITATIONS SUBSEQUENTLY UPON THE PREVIOUS PRACTICAL WORK PERFORMED BY THE STUDENT.

#### *Resident Maternity Service.*

Without entering into the controversy regarding the actual amount of participation on the part of the student in the practical work of the hospital or of the polyclinic or "outdoor" service, we believe that such obstetric courses should to-day demand not only that the student shall witness the delivery of the patients, but also that he shall personally actually confine the patients, always in the presence of an expert and critical instructor. Moreover, the subsequent care of the puerperal woman and newborn child should rest with the student, always again under a complete system of checks against accident and under the most rigid supervision. That this is not only practical but possible can be abundantly shown by records of thousands of cases of confinement thus managed without accident.

It has been charged against this practical system of teaching, as applied to the medical student, that it carries with it a high mortality rate, and that the pa-

tients treated under such a system are subject to unnecessary exposure.

The first objection is abundantly answered by the records of many such practical systems established years ago in Germany, and by those of several established within the past decade in this country.

The latter objection can only hold good by reason of a lapse in the rigid, critical, and constant supervision on the part of the instructors, which must at all times pervade such practical systems of instruction.

The student will best appreciate and profit by this course if it is taken during his third year, or, better, in vacation time, between his third and fourth years, when he has full leisure to give to it. He should be brought to look upon this practical course as the most valuable and important of his whole obstetrical teaching, for all that he has previously learned is to be tested and fixed in his mind; theoretical deductions are to give place to practical application; he will now not only observe his classified knowledge applied at the bedside, but use and apply it himself.

There is no doubt that students, as a rule, fully appreciate the advantages of such clinical work, although it demands extra time and much work. It is no uncommon occurrence, in one institution at least devoted to education in practical obstetrics, for the student to ask the privilege to remain over his regular period of service, or even to return after a lapse of several months and repeat his practical obstetric course, although he has already more than fulfilled the requirements for graduation.

#### 1. *The Examination of Pregnancy.* 2. *The "Ward" Service.*

It is advisable that the first of the student's observations should be in the examination of pregnancy. The first few days of his service should be rather passive ones. He should be called to witness all the deliveries and operations in the wards or operating room; he should attend such clinical lectures as shall be given; accompany the attending or resident physician in his diurnal rounds, and in addition should spend several hours each day in the out-patient examining room or waiting ward, where, under a competent instructor, he should be required to take an active part in the examination and diagnosis of pregnancy, including pelvimetry, and should, under the supervision of the instructor, be required to fill in properly and sign his name to the histories of pregnancy. It will be well if the record charts used at this time—and later for confinement cases and the newborn child—be fuller and more detailed in their requirements than perhaps the medical records of a hospital would demand. This is intended to bring out the student's faculties of observation, and a wider consideration of the subject than is generally considered necessary. Examinations thus carried out under the eye of the instructor, with attention to minute details,

as well as general observations in the examination and care of even a few cases of pregnancy, labor, and newborn children, will prove of far greater advantage to the student than a much greater number cared for by him without direct instruction and supervision.

No better time than this can be selected to inculcate in the student the principles of obstetrical cleanliness, mechanical and chemical.

Rules and explicit directions for personal cleanliness and disinfection may be printed to advantage in bold type and hung in the examining room, as is the custom in some foreign maternities, notably of Prague. Moreover, by this plan the same rigid cleansing and disinfecting of the hand and forearm is applied to the examination of pregnancy as to that of labor, and to carry it out properly an abundant supply of fresh water, soap, brushes, and mercuric chloride are called for.

With an abundance of material, such examinations of the dispensary and waiting women of the hospital may, after the student has examined several cases under proper supervision, readily be made to resemble the "touch course" of the foreign maternities.

With two students assigned to a case they may be given time, after cleansing of their hands under supervision and according to the rules of the institution, to examine the women both externally and internally. The instructor in charge then examines the cases and questions the students regarding the general condition of the patient, the time of gestation, posture and presentation of the fetus, condition of the mammary glands, anterior abdominal walls, external genitals, pelvic contents, size of the bony pelvis, and departures from the normal in hard or soft parts.

He may now, with great precaution, be permitted to examine several cases in labor in the wards or delivery room; then under rigid and expert supervision he may be allowed to care for the entire confinement. The instructor must stand ready at this time to correct errors in cleanliness, and criticise unskillfulness in management.

Under the supervision of the instructor, as in the examination of pregnancy, the student should be directed in the filling out of a complete history of labor and child, going into the minutest details in order to train his faculties of observation, and to this his name should be signed, so that he may understand that he personally is held to account for the future welfare of the case.

Should the student remain on "ward" duty, the future care of the case is assigned to him, still under supervision of the ward instructor, and the daily observations upon mother and child are taken by him and criticised at the diurnal rounds of the attending or resident physician.

### 3. "Outdoor" or Polyclinic Service.

The systematic training the student has received in the wards renders it possible for him to put this same train-

ing in practice in the care of women in their own homes. Thus, a large class of the poor of great cities, who either can not or will not enter a maternity hospital, may be reached. It is no doubt true, so far as this country is concerned, that while a small proportion of the poor dependent upon charity for proper aid in confinement is cared for in maternity hospitals, by far the greater number remain at home and must be attended there. This outdoor, polyclinic, or tenement-house service on the part of the student can only be rendered practical by an elaborate and carefully supervised system; by the most thorough checks against accident; by an abundant supply of clinical instructors; and by establishing throughout the district to be covered by the service a number of substations to the main hospital building, so situated that one at least shall be easily accessible to each patient on the waiting list, and all in touch with the main hospital by means of telephonic connection.

Here, again, it can be abundantly proved that such a system is not only feasible, but capable of being carried on successfully. Regarding the greater advantage to the student of the outdoor maternity system, as compared with the indoor service, there can be no question. In the former, the pupil, being thrown more upon his own resources and responsibility, becomes no longer a looker-on, an assistant, but, being practically in charge of the case of confinement, he profits by his experience accordingly. The limits of the present paper forbid our enlarging further upon the machinery by means of which such outdoor lying-in services are conducted. Moreover, descriptions of such systems, carried on in Baltimore, Philadelphia, New York, and Boston, have been sufficiently dwelt upon during the past ten years.

### 4. Obstetric Clinics.

With a properly equipped operating room and amphitheatre, each normal or abnormal delivery in the maternity may be made the occasion for an obstetric clinic, all the students on the premises being summoned for the occasion. For this to be properly carried out, it should be demanded of the resident staff that it shall also be a teaching staff, and that a preliminary history of the case, in each instance, should be concisely stated, as well as a careful exposition of each step of the labor or operative procedure.

Such obstetric clinics could readily be made to resemble the diagnosis classes held abroad, as, for instance, in Munich or Prague, where parturient women are rolled into the amphitheatre from the ward or delivery room, and two students are called down from the seats, required to render their hands and forearms obstetrically clean, in the presence and under the criticism of the instructor, then to examine the case, make their diagnosis of pregnancy or labor, presentation, condition of os, membranes, vagina, vulva, bladder, rectum, and hard parts, and finally undergo questioning from the instructor regarding their findings in the case.

Should operation or interference be called for it is to be performed by the instructor; but should the case prove a normal one, the student may be permitted to complete the case, always under the criticism and supervision of the instructor, who should be expected to address not only the students at the case but the entire audience.

Many points of practical interest connected with the management of the second and third stages of labor, the handling of the child, the care of its eyes, the administration of the post-partum douche, the watching of the fundus uteri, the application of an occlusion dressing and abdominal binder, may be brought home in a most thorough as well as interesting manner.

The further conduct of mother and child may rest with the two students confining the case, and they should be held responsible for subsequent departures from the normal condition.

### 5. Theoretical Lectures.

Little time will be left to the pupil for theoretical instruction during his maternity service. This should precede and follow his practical instruction.

What theoretical teaching he does receive at this time should have direct bearing upon the work in hand, and should rather take for its subject abnormal or interesting cases occurring in the recent service of the hospital.

### 6. Recitations.

What we have said regarding lectures applies equally to recitations. One or two a week, however, will prove of the greatest value in fixing the previous practical work of the student. It will be found here that the use of those aids to illustration to which reference has already been made in the college course will prove of untold value in firmly establishing the principles of practical obstetrics in the pupil's mind.

It may be mentioned here that most of these aids, with the exception of the wet and dry specimens, are of such a nature as to be readily kept clean, and thus free from even the suspicion of danger as regards their use in a maternity.

## IV. THEORETICAL OR DIDACTIC LECTURES (ILLUSTRATIVE IN CHARACTER) UPON ADVANCED OBSTETRICS.

A good deal has recently been written regarding the passing of the theoretical or didactic lecture, and the fact that it is less generally made use of than heretofore has, in the foregoing pages, already been alluded to. I can not but believe, however, that, so far as obstetrics is concerned, the theoretical lecture, in a modified form, still has its place and can accomplish much good.

I do not refer to the old-fashioned lecture of fifty-five minutes, devoted to rehearsing the course of a dis-

ease, interspersed with anecdote and clinical experience of the speaker, but we have reference to a lecture—theoretical in part, to be sure, but partly recitation and partly demonstration—which deals with the pathological conditions of more advanced obstetrics, and covers such subjects as abortion and premature labor, extra-uterine gestation, the mechanics and physics of labor, ruptures of the genital tract, puerperal infection, and the rarer forms of pelvic deformity.

Fifteen minutes at the commencement of such a lecture can, to advantage, be given to recitation upon the subject of the preceding lecture, and pathological specimens, models, the blackboard, and the lantern and screen are not to be neglected as means of demonstration and illustration.

In conclusion, I desire to affirm my deep conviction that the subject of obstetrics should be considered in no sense of the term a specialty, but a department of medicine and surgery.

Further, that in the recitations, demonstrations, laboratory work, clinics, practical bedside instruction, and theoretical lectures, already alluded to, the instructor should render a service not only to his listeners but to medicine in general, by rising to something higher than a mere perfunctory performance of his assigned duties, and impress clearly upon his class the fact that midwifery is not a specialty but an integral part, a subdivision only of medicine and surgery.

No part of any subject can be properly understood unless it is studied in its relations to the whole. The interdependence and intimate relationship of these three branches can not be too clearly brought out or too often insisted upon. The light shed by each on the complications of the others is too bright and too valuable to be lost in the obscurity of prejudice and misconception.

Obstetrics to-day, and at all times, should be taught equally as a department of medicine and as a department of surgery.

The day, which fortunately for suffering women has passed, has not faded from the memory of living men—men indeed who took an active part in raising midwifery to its present position, when the obstetrician was refused his equal place by his brother physicians and surgeons, using the words in their narrowest sense, when he was not permitted to operate in the great hospitals of the centres of population, and his art was relegated to the place it occupies now in the hands of the midwife! With the advance of medicine in general during the last half century has come the recognition from every quarter of the kinship of these allied branches, and of the knowledge added to the general fund by the obstetrician's painstaking research. It is just these facts which we claim should be continually brought to the student's attention, in order that he may not in his future career \*

\* Barnes. Inaugural Address. *Glasgow Medical Journal*, December, 1894.



fall into the error of regarding midwifery as a thing apart from general medicine, and, further, that, if his work should chance to lie more particularly in other fields, he may carry with him a just appreciation of an art in which he has been at least thoroughly drilled.

In illustration of what has been said, it may not be amiss to cite a few instances demonstrating that the physiological and pathological states of pregnancy, the puerperium and labor, the therapeutical and surgical measures adopted in handling them, differ certainly not in kind from these conditions found elsewhere. It is only that the greater skill of the accoucheur after long training gives him an advantage readily recognizable. The toxæmia of pregnancy is toxæmia still in spite of its graver import, perhaps, in the danger to the life of mother and child, and its indications in the way of treatment are the same, save for the additional obstetrical treatment. Transient glycosuria disappearing with the termination of labor or the onset of lactation, jaundice, hæmorrhage, cardiac hypertrophy, thrombosis, embolism, offer no essential differences, and, further, exhibit the particular morbid condition in its inception, throwing a light on its ætiology often obtainable in no other way (Barnes, *loc. cit.*). We are too prone to accept the findings in the dead house as cause rather than effect, and to neglect the opportunity furnished by the pregnant state to observe the affection at its outset and thereby discover the true methods of prevention and cure. Metabolism, in both its forms, here furnishes unequalled opening for study to the physiologist. There is much to be learned from observation of the progress of intercurrent disease—*e. g.*, tuberculosis, under the intense vascular and nervous strain of pregnancy. The same is true of skin affections, both as to their nature and ætiology. The so-called "mask of pregnancy" is the chloasma of other states; herpes gestationis is dermatitis herpetiformis; and here the dermatologists may find a clue to the origin of these affections. These statements are equally applicable in the province of surgery and surgical pathology.

Gynecology may, with reason and right, be ranked as a specialty, its technical procedures entitling it to such a place, but not so obstetrics.

Repair of injuries produced by labor, instrumental or manual dilatation of the cervix, symphysiotomy, curettage, fall more naturally to the obstetrician only because of his skill and experience in their operative details, not because the general surgeon is not entirely competent to perform them.

Certain measures, as perforation, cephalotripsy, forceps and version operations, manual removal of the placenta, decapitation, evisceration, correction of malpresentations, positions, and attitudes, closely approach the border line of specialism, but some of these have greatly fallen into disuse since the introduction of other perfected operations offering a chance of life to the child. Cæsarean section itself is merely the removal by the

knife of a foreign body from the interior of a hollow viscus whose outlet is partially occluded.

This argument may appear at first sight a digression from the subject in hand, but reflection will show not only the justice but the necessity of its introduction. His student career is the time when the physician is most impressionable, and when facts are most readily brought home and fixed in his mind.

#### THE CONNECTION OF INTESTINAL AUTOTOXIS WITH CERTAIN COMMON FORMS OF INSANITY.

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(Concluded from page 580.)

By far the most suggestive cases in which autotoxis from intestinal disorder plays a part are those of acute excitement, especially where there is rapidly developing incoherence and confusion. These, in my experience, have, as a rule, been associated with corresponding evidences of intestinal disorder such as have been described. Lively and generally fleeting illusions and hallucinations and delusions developing after insomnia, loss of appetite, and constipation, the delusions being unsystematized, are features, and if such derangement be connected with urinary findings of the character I have mentioned, and the clinical evidences of physical disturbance, I think the intestinal disturbance may be always looked upon as a cause.

The more sudden and active are the manifestations when unsystematized delusions or hallucinations are expressed, the more positive are, in my experience, the indications of autotoxis. So characteristic, for instance, are the loquaciousness and incoherence that Jacobson, who has described the toxic insanity of nephritis, has applied the name of "*Verwirrtheit*" to the confusion, which is almost allied to delirium. Acute hallucinatory insanity is often expressed by pseudaphasic confusion, and is often undoubtedly due to the cause I have mentioned, and there are even cases of extreme neurasthenia in which consciousness is more or less affected, and where there is no special delusional system. Occasional remissions of some duration are possible in these forms of general derangement, during which the patient recognizes his false ideas and speaks of them. In some of these cases pseudaphasic confusion is expressed as the result of misleading auditory hallucinations which the patient is unable to correct. To the excited psychoses belong certain short-lived varieties of mental disturbance of this kind attributed to shock, and denominated traumatic insanity, in which such confusion is a characteristic. To this class belongs a case recently seen by me in consultation with Dr. Lusk, of New York.

The patient was a woman, thirty-seven years of age, who went into St. Vincent's Hospital on January 28,

1896. She had had some irregular menstruation with slight uterine hæmorrhages between the menstrual periods, and once or twice in her life had had epileptic convulsions. The condition of the heart and lungs was negative. Abdominal and vaginal examination revealed the presence of a fibrous tumor, which was removed by operation on January 29th, on that day the temperature being normal and the pulse 90, but the urine had a specific gravity of 1.035, and contained abundant urates.

After the operation no untoward results occurred until the next day, when there were restlessness, insomnia, flatulence, and a slight rise of temperature, which continued, so that on the evening of the 31st it had reached 103°. She was troubled with abdominal discomfort, eructations of gas, and increased nervousness. The bowels moved for the first time on February 1st, the amount of feces being very small; on the 2d the enema brought away a large movement. She became flighty on the evening of the 2d, and had delusions and terrifying hallucinations of a persecutory nature; the temperature meanwhile varied between 101.2° and 102°, with broken and uneasy sleep procured only by morphine and chloral.

The urine was now superficially examined, showing an abundance of urates with high specific gravity (1.025), no albumin, and sugar. Her incoherence almost amounted to delirium, and she cried, and was excited and anxious to leave her bed. For several days there was no particular rise of temperature, there being no greater advance than 102.8°, with a corresponding rapidity of pulse. The intestinal disturbance still continued, and was very general. She did not recognize persons, but called them by wrong and fanciful names, and had no idea where she was. She had been fed with nutritive enemata and milk, and on the 14th a critical examination of the urine was made at my suggestion, which disclosed the following appearances:

A moderately large amount of indican and a lowered ratio of preformed and combined sulphates; the combined sulphates measured by the Salkowski-Bauermann method being 0.25 gramme, and the preformed sulphates 0.45 gramme in the urine of twenty-four hours, while the urea was reduced to 11.81 grammes in the same period.

The ratio of uric acid and urea was 1 to 38.

Naphthalin was suggested and given in doses of four grains every two hours, being preceded by calomel and soda. Her condition, which had up to this time been almost continuously one of incoherence, promptly cleared up, and she but occasionally expressed delusions. The next day the temperature fell to 98.8°, and remained normal thereafter. She recognized that she had been irrational, and after the 23d there was little mental disturbance left, the specific gravity of the urine falling and showing a rapid decrease in all abnormal

constituents, while her stools, which had been of a clay color, were well formed and regular. The sulphate ratio became normal, and the total sulphates were properly proportionate to the urea; the ratio of uric acid to urea was 1 to 50.

Another case in which the condition of the urine bore a very close relation to the variation of the mental symptoms was that of a young married lady, who upon two previous occasions, one far apart from the other, had manifested symptoms of an alternating character, there being usually an initial melancholia and succeeding light mania, which increased and had to be controlled by morphine and hyoscyamine. Her periods of mental derangement generally extended over several months, and seemed to bear close connection with a more or less profound disturbance of digestion, and were distinctly modified by the menstrual periods. The attacks of 1893 and 1894 were managed in the ordinary way, and there was a general amelioration of the symptoms and final subsidence, the convalescence occurring after removal from home. In 1895, after a protracted neurasthenia, she was affected with a maniacal condition marked by very great muscular violence, incoherence, and lively delusions, some of which were erotic and unsystematized. So extreme was her condition as to need the services of three nurses, and, despite their uninterrupted care, she became filthy and destructive, tearing her clothes, breaking such objects as she could lay her hands upon, and requiring dangerous quantities of hyoscyne for the production of quiet. Her condition was exceedingly variable, and when she was not engaged in impulsively destroying things about her and assaulting her nurses, she scribbled and wrote incessantly, and there was almost constant verberation. Her bodily condition was one which gave me a great deal of worry, for she rapidly lost flesh, and this despite the fact that large quantities of food of a condensed and apparently suitable kind were taken.

Repeated examinations of the urine and the feces showed a very decided disturbance of gastric and intestinal digestion, and her symptoms kept pace with the variations in these processes. Her mental state, which was most irregular and apparently uninfluenced by anything in her surroundings, revealed an interesting condition of affairs, which was so constant and consistent as to convince me that the insanity was kept up by the absorption of some toxic material. Her periods of excitement and confusion were always attended by a reduction in the amount of urine excreted, by an increase in the ratio of preformed and aromatic sulphates and indican, and by the presence of those signs of impaired digestion which indicated an intestinal putrefactive process. Certain psychical prodromes of attacks after periods of comparative lucidity were nearly always immediately connected with the presence of an increased sulphate ratio. At one time, before this connection was realized,

the prognosis was exceedingly bad, because of the extraordinary condition of physical exhaustion.

This patient had received up to this time nearly all the approved restorative agents and tissue builders that were available, and one twelfth of a grain of the hydrobromide of hyoscyne daily. When this point was reached, the diet was restricted, nitrogenous substances being excluded as far as possible, and thorough intestinal disinfection was obtained by means of charcoal, salicylic acid, and the carbonate of guaiacol, the patient meanwhile being given large draughts of water, and her lower bowels flushed by the long rectal tube, with a mild solution of boric acid. At regular intervals she took calomel purges, and a preparation of the red marrow of the small bones of the calf, to which reference will presently be made. The good result was almost immediate. Excitement subsided, and there was a rapid return of self-control, with the disappearance of the delusions, and a general subsidence of all mental disturbance. Continued and sufficient sleep was obtained for the first time in months, and the patient rapidly recovered. Within a few days after the intestinal antiseptics had been established, the urinary condition became apparently normal, the ratio of sulphates resuming its normal standard, and the specific gravity of the urine was promptly lowered, while the indican disappeared. A distinct and decided gain in color and flesh was inaugurated, and in three weeks after treatment the red blood-corpuscles had increased fifty per cent., while the percentage of hæmoglobin, as measured by the Reichert instrument, rose to 105.

The causation of puerperal fever by the death of the *Bacterium coli* has been demonstrated by Budin, who has studied the febrile disturbance in connection with fecal accumulation. Undoubtedly, many puerperal insanities have some such explanation as this, especially those of the maniacal variety, which often develop in a very few days after parturition. A case I have recently seen was one in which there was absolutely no ascertainable local infection and in which there was no unusual rise of temperature, and a rapid recovery took place after the establishment of intestinal antiseptics.

Alcoholic insanity, as well as other forms, where acute or chronic variations prevail, must, I am convinced, be studied with regard to the conditions of the intestines, and it does not do to ascribe its origin altogether to general exhaustion or to circulatory changes, or to the well-known effects of alcohol upon the nervous tissue, although undoubtedly all these conditions exist at some time or other, and in different cases play a part. If we stop a moment to consider the clinical features of acute alcoholic insanity, we shall find many of the symptoms of a rapidly developing toxæmia, quite apart from that effect upon the nervous system which may be produced by the agent itself. The cerebral hyperæsthesia, rapid changes in perverted perception, the development of the peculiar hallucinations in which rotten substances,

worms, bad odors, or other horrors appear, often figure; the hyperkinesis, cephalalgia, malaise, etc., and the antecedent history of gastric intestinal disorders, the presence of abundant aromatic sulphates, urea and indican in the urine, and possibly skatol, the foul small stools or diarrhœa, the final unstable and changing delusions, exhaustion and death, are suggestive. When we consider that the proteids have passed undigested through the small intestines, and have accumulated below, where they lie enfolded in a congested and feeble gut, it is not difficult to appreciate the fact that they form a rich field for bacterial attack, with the resultant introduction into the system of an amount of toxic material sufficient to produce a most serious change in the functions of the brain and cord. The alcoholic extracts of fecal matter, according to Bouchard, are far more toxic than ordinary putrid matter, so it will be appreciated how readily skatol, indol, and other alkaloids of the feces may be introduced in such quantities as to do much mischief. The successful treatment of the cases of alcoholic insanity that have come under my notice certainly goes far to strengthen this view.

The insanity developing after very acute diseases, especially influenza, is probably primarily dependent upon the intestinal congestion and derangement of the mucous membrane, which is a part of the general disorder elsewhere, but in typhoid fever, where specific intestinal regions are attacked, it does not appear that there is any undue appearance of indol in the urine, although the appearance of post-febrile insanity in this disease would make this seem impossible, at least in a small number of cases.

The practical management of these cases not only includes the provision of an absolutely suitable diet, but the use of antiseptics, and recourse to mechanical means for the purpose of cleansing the gastric tract. That the lower bowel is the seat of infection appears to be very well established by the experiments of Baumann, who found that when a fistula was made in the portion which included the lower portion of the small intestine, there was a disappearance of the indol, phenol, and the other ethereal sulphates from the urine, but that when the intestinal contents were allowed to pass through the lower natural outlet, the putrefactive products were largely increased and their presence was again detected in this fluid. This discovery shows the necessity for thoroughly washing out the lower bowel from as high a point as possible, and a long rectal tube should always be used for this purpose.

Macpherson's plan, tried with some success, is based on a recognition of the fact that when the antiseptic power of the acid of the gastric juice is impaired, there is an indication for the use of intestinal antiseptics with primary recourse to hydrochloric acid. Macpherson resorted first to lavage, which was followed by a dose of calomel at night, a saline purge in the morning, and the subsequent administration of naphthalin in doses, at



first of thirty grains daily, which were increased to eighty grains.

In my selected cases I used a variety of intestinal antiseptics, the list including naphthalin, salol, and the carbonate of guaiacol, charcoal, borax, and the salicylate of sodium. Several cases were put upon small repeated doses of calomel. These drugs were faithfully tried, and although with naphthalin I sometimes obtained excellent results, and in one case of traumatic insanity very prompt ones, I found that upon several occasions it gave rise to diarrhoea, great muscular weakness, and twice strangury, and the urine was colored with hydroquinone.

The administration of phenol or its derivatives may, under some circumstances, mask the results of urinary examination, as was the case in a recent experience. The patient had submitted himself to treatment by a physician for a supposed tuberculous affection, receiving injections of a preparation which contained phenol and pilocarpine. A few days after treatment he became wildly insane and attempted suicide. An examination revealed an entire absence of the preformed sulphates and indican, but a very large amount of combined sulphates. In this case the phenol entirely changed the urinary findings, as it always does. There was no intestinal disorder or there would have been indican, and the conclusion was reached that all the mental derangement was due to the pilocarpine.

Salol was unreliable and of slight service, and was often passed in an unchanged condition in the fæces.

Even with this drug administered in large quantities, it was apt to be found in small round balls in the fæces, and it is therefore recommended that all intestinal antiseptics should be given in small and repeated doses.

Naphthalin, if administered in capsules, which, as a rule, is necessary because of its offensive odor, is sometimes passed in an unaltered state. My experience is that of Herter and Smith, that there is no agent which approaches salicylate of sodium, so far as its antiseptic advantages are concerned, and I have given it in from ten to fifteen grains, thrice daily, and found it of especial value in melancholia and other insanities where the cerebral condition is one of anæmia. The use of this drug, which produces a condition of increased arterial tension, is rather against the theory that uric acid produces cerebral symptoms, for not only is it of service because of its antiseptic action, but in the anæmic brain of melancholia it certainly brings about an improvement through accretion of new blood and nutritive material.

In insanity of a toxic nature there is, as we know, a destruction of hæmoglobin, and a very greatly reduced number of red corpuscles. This condition of affairs is not only met with in the acute insanities due to the absorption of putrefactive products of intestinal indigestion, but in old insanities as well, and Johnson-Smyth found the red corpuscles reduced to 4,070,000 and the hæmoglobin to fifty per cent. in the case of secondary dementia.

So far as the nutrition of the individual is concerned, I have had the best results with a combination which is a rapid producer of nuclein, and when we appreciate the fact that in the majority of these cases there is a destruction of the coloring matter, as well as other blood elements, the provision of some agent rich in this substance is an absolute necessity.

Remedial measures of this kind consisted in the use of a combination of a glyceride of the red marrow of small bones with bullock's blood, the amount of glycerin being regulated both in quantity and temperature so that coagulation does not take place during its preparation. With this preparation I have been enabled to prevent waste, and build up my patients much more rapidly than with any of the other more popular restorative agents, and its use at two of the large hospitals for the insane in New York was attended by an increase of red corpuscles to the extent of fifty per cent., and depressed states were quickly helped.\*

The possible conclusions are, I think, the following:

1. Urines rich in indican contain very little or no preformed sulphuric acid, and are toxic.
2. When the sulphate ratio is materially changed, it is likely to indicate autotoxis in connection with an increase in the amount of combined or ethereal sulphates.
3. Such indications are generally found with acute insanities, in which rapidly developing symptoms occur.
4. Fugacious and changing illusions and hallucinations, unsystematized delusions, confusion and verbiage in connection with insomnia, pallor, intestinal indigestion, constipation, and rapid exhaustion are due to autotoxis.
5. Paranoiac states, or those in which concepts are the features, chronic stuporous conditions, and certain forms of dementia have little to do with the formation of intestinal products of putrefaction.
6. Various post-febrile, traumatic, alcoholic, or drug insanities are those in which autotoxis is most constant.
7. The variations in the excretion of combined sulphates keep pace with the changes in the progress of an established insanity, *accès* and epileptoid attacks being directly connected with putrefactive processes.
8. The most successful treatment consists in lavage, intestinal douches, gastric and intestinal antiseptics by means of hydrochloric acid, borax, salicylate of sodium, charcoal, guaiacol, or naphthalin in small repeated doses. The administration of a combination of the red marrow from the small bones, blood, and glycerin.

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\* The preparation which has been called carnogen by its manufacturers was that used in the Hudson River State Hospital in Poughkeepsie. See Dr. Pilgrin's article in the *American Medicosurgical Bulletin* for June 6, 1896.

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## CLINICAL NOTES ON NUCLEIN SOLUTION.

By A. L. A. TOBOLDT, M. D.

PHILADELPHIA.

As so much has already been written about the action of certain animal extracts, especially those of the thyroid and allied glands, it will suffice here to call attention only to the facts that have been definitely proved and are now firmly established in the opinion of the profession—viz., that by their use a certain degree of artificial leucocytosis may be produced, and that, assuming that the white corpuscles are Nature's scavengers of the blood, multiplying their number would naturally lead to the more speedy removal from the body of all noxious principles. It follows, therefore, that these remedies would have a very wide range of usefulness. As my experience with this class of remedies has been confined mainly to the nuclein solution prepared according to the formula of Dr. Aulde, I will enumerate in this paper only cases in which I used this particular preparation. As to comments, I have forbore from making any, confining myself to the simple statement of facts as I have found them, leaving the profession to make what comments it may see fit.

Mr. M., aged thirty-four years, met with an accident while riding a bicycle, which resulted in a fracture of the clavicle and several ribs. The fracture was due to a direct blow from the shaft of a wagon, and the amount of hemorrhage (subcutaneous) was enormous, threatening almost to burst the skin; but under the applica-

tion of cold-water dressing the size of the swelling was materially reduced. When I first saw the patient, about six hours after the accident, I found a lump somewhat larger than a good-sized fist. This was still further reduced by the continued use of cold water, but after five days it seemed to remain stationary, presenting a tumor as large as a fist. After a period of about fourteen days, having taken on various rainbow hues, the skin was beginning to get very thin over the tumor. I then gave the patient tablets of nuclein solution, one third minim every hour, and when I again saw him the next day, I was very much astonished to notice a decided reduction in the size of the tumor, which entirely disappeared in thirty-six hours.

P. K., aged five years. The face and head were covered with boils, due to improper diet. When restricted to a more rational diet, and given one third minim of nuclein solution every hour, it was astonishing to see the boils disappear. After a few days the face was almost clean, and after the lapse of ten days the last boil had disappeared.

Miss McJ., aged thirty years, presented herself for treatment, complaining of great debility, cough with profuse expectoration, hectic fever in the afternoons, followed by cold, clammy sweats. Physical examination revealed marked impairment of resonance over the apex of the right lung; there was also very marked dropsical swelling of the feet, reaching almost to the knees. Upon examination no albumin was found in the urine. This patient, when placed upon one-third-minim doses of nuclein solution every hour, improved so rapidly that she was able to return to her work in a factory after two weeks. When last seen the dropsical swelling had entirely disappeared, and the cough and expectoration had ceased entirely.

Mrs. S., aged thirty years, married, and the mother of three children. First seen November 25, 1895, suffering from very much enlarged abdomen, due to dropsical effusion, dyspnoea, etc. The history and other symptoms pointed to tubercular peritonitis. This patient had been under the treatment of another physician, who had found it necessary to tap her, drawing off, according to the statement of the patient, a very large quantity of fluid. This gave her immediate relief, but, as the fluid again appeared, her physician suggested an operation, which was to be more radical, and, as he hoped, would cure the disease. The operation was delayed on account of the absence in Europe of the operating surgeon, and the doctor was doing all he could to make the patient comfortable in the mean time. This was the state of things when I was first called to see the patient, November 25, 1895. I at once placed her on nuclein solution, three minims given hypodermically every day, and had the great satisfaction to see the swelling of the abdomen diminish very rapidly and to disappear after the lapse of two weeks. The general appearance of the patient had also improved greatly, and after continuing the nuclein solution by the mouth for two weeks more the patient was discharged cured.

Mrs. B., aged thirty-five years, with tuberculosis. Apices of both lungs involved; had repeated hemorrhages with profuse expectoration, hectic, cold sweats, etc. She was placed upon nuclein solution, three minims hypodermically once a day, with an abatement in forty-eight hours and a total cessation after the fourth day of all fever and sweats. The expectoration became less profuse and the patient began to gain in flesh; in two months she increased from ninety-one to one hundred



and one pound, and her present weight is one hundred and five pounds. She is still under treatment; the lungs have cleared up very much and the cough is practically nil.

The case of Mrs. B., aged forty-eight years, is very much like the preceding, only that the improvement has been more marked in the four months of treatment by nuclein solution. The patient has laid on flesh and to all appearances seems well, although she had a slight hæmorrhage, about two teaspoonfuls of blood, a week ago. She is still under treatment. In both these cases practically no other treatment was used than the nuclein solution hypodermically.

Mrs. A., aged thirty-eight years, with tuberculosis of the apex of the right lung, just beginning to break down. The usual symptoms of hectic, sweats, etc., yielded at once to nuclein solution, and after the lapse of three months patient entirely recovered without any further manifestation of the disease after the expiration of nine months.

Mr. S., aged thirty-eight years, had typical typhoid fever. The temperature reached 102° F., and the stools were characteristic, as was also the eruption. Was placed on nuclein solution by the mouth, one third minim every hour, and copper arsenite, one one-hundredth of a grain, every two hours. After the first week the temperature never rose above 99° F., and the case ran a very mild course, the patient returning to his work (saloon-keeper) at the beginning of the fourth week. He returned for treatment at the end of the week, complaining of general weakness, without, however, any rise in temperature or other symptoms of the fever. A carefully selected, generous diet, with tonics, enabled him to return to work after the lapse of two weeks.

L. T., aged five years, presented the symptoms of headache, very high fever (104° F.), slight sore throat, followed within twenty-four hours by an eruption which left no doubt of the nature of the disease. Never having tried nuclein solution in cases of scarlet fever, I thought this a good opportunity. The child had been given a few small doses of calomel when first seen, but as soon as the eruption appeared nuclein solution, one third minim, was given every hour. No improvement was apparent until the evening of the third day, when the temperature showed 101° F., sore throat had disappeared, and the patient appeared bright and inclined to eat. At the end of the week nothing could keep the child in bed, and desquamation was well under way and completed by the end of the second week. In other cases of eruptive fever of similar nature in which nuclein solution was used the effects were gratifying in the extreme.

Mr. T., aged forty-five years, was first seen three years ago, when he presented marked symptoms of diabetes mellitus. Under the usual treatment he improved very much, but returned after a year with all the symptoms in an aggravated form, which again yielded to the former treatment. After the lapse of another year, with all the symptoms worse than ever before, he was placed upon nuclein solution, one third minim every hour, which in two weeks caused a marked diminution in the percentage of sugar—from three to one per cent. The nuclein was continued, and at the expiration of one month sugar had entirely disappeared. A month later he reported with a specimen of urine which again contained a trace of sugar, and being again placed on nuclein the same as before, with the addition of copper arsenite, one one-hundredth of a grain every

two hours, the sugar disappeared entirely, not to return as yet, now six months.

Miss W., aged nineteen years, presented herself for treatment because she was getting so dark complexioned as to resemble a mulatto more than a white girl. This change of complexion was accompanied by general weakness, but otherwise the patient declared herself perfectly well. Being rather pressed for time, and not able to make a thorough examination of the case, I gave her some tablets of nuclein solution, one third minim, directing her to take one every hour, and to report in a week or ten days. To her delight and my surprise, the complexion was a number of shades lighter, and she was feeling very much like her old self. A continuance of the nuclein solution for another ten days completely restored her to her former self, and, as her mother said, she could now go out with her daughter without people making remarks about "that mulatto."

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## AMPUTATION OF A CARCINOMATOUS BREAST DURING LABOR, FOLLOWED BY THE HIGH FORCEPS OPERATION.

By J. IVES EDGERTON, M.D.,

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THIS case occurred in the service of Dr. S. W. Lambert, by whose kind permission I report it:

Mrs. E. S., aged thirty-six years, quintipara, was admitted to the Nursery and Child's Hospital September 10, 1896. The history she gave was as follows: Family history negative as to tuberculosis and cancer. Her first and second labors, occurring sixteen and fourteen years ago, were normal. Her third labor, occurring eight years ago, required the use of forceps because of "uterine inertia." The child is now living. Her fourth labor, three years ago, was also instrumental for the same reason. The child is also living.

During the period of lactation following this last labor her right breast became acutely inflamed, and nursing from this breast was stopped in consequence. She nursed, however, from the other breast without any interruption. Neither breast had troubled her during previous lactations. The inflammation did not go on to abscess formation. Since that time her attention has never been called to the breast by reason of any symptoms; she has never had any pain, and she does not remember when she first noticed any peculiarity in the breast. It was during this last pregnancy also that she sustained a fall while walking on the sidewalk. This did not confine her to bed, and she did not see a physician. Shortly afterward she noticed a swelling over the lower part of the back, which has gradually grown. Never any pain, and there were no signs of paralysis at any time. She states positively that her back was normal before this.

Physical examination, at time of admission, showed a well-preserved woman of middle age with no signs of cachexia.

In the lower inner quadrant of right breast was a hard, nodular tumor, movable on the ribs, but adherent to the deep fascia. Nipple and skin over tumor markedly retracted. Several enlarged glands could be felt in axilla, one of them nearly as large as a pigeon's egg. None could be felt in the subclavicular region. In the lumbar



region of the spine was a well-marked kyphosis, involving the third, fourth, and fifth lumbar vertebrae. Her measurements were as follows: Between spines, 26 centimetres; between crests, 30 centimetres; external conjugate, 22 centimetres; right oblique diameter, 26 centimetres; left oblique diameter, 26 centimetres. Promontory could not be felt.

Vaginal examination revealed a very badly lacerated cervix. Its edges were so hard as to suggest malignancy. There was no ulceration evident, however; no bleeding on palpation. Os easily admitted two fingers.

It is well known that malignant tumors of the breast grow very rapidly during the puerperium. Now, the patient, according to her reckoning, was about eight days from term. It was therefore thought best to operate at once, reasoning in this way: that if labor was not directly induced by operation, she would have recovered from the latter before labor came on. Even if it were induced, however, there would still be a fair chance of saving mother and child.

But within two hours of the appointed time for operation the first stage began with strong pains.

It was then thought advisable to do a partial operation; that is, to remove the breast and growth in it, not adding to shock by taking time to remove axillary contents. This was thought justifiable under the circumstances, as it would forestall any functional engorgement of that side of the chest and the consequent rapid growth of the tumor, and a secondary operation could be done later for removal of glands. Accordingly, ether was given, and the breast rapidly removed by Dr. Lambert. The amount of hæmorrhage was slight. Within three hours after she came out of the anæsthetic, labor pains started in again. The cicatricial cervix dilated more readily than was expected, and it is to be noted that there was no hæmorrhage. Second stage started at end of six hours from time of operation. Patient was still suffering somewhat from shock, and pains were weak, so that they did not cause head to engage at end of two hours. As patient was getting exhausted, axis-traction forceps were applied, and child easily delivered in eight minutes. The subsequent history so far uneventful. Wound healed up primarily, with exception of small drain sinus. Milk came into left breast on the third day, and baby was allowed to nurse. Patient was allowed out of bed on the twelfth day. Uterus and cervix appeared normal. The enlarged glands in the axilla have remained the same size, and as soon as patient's condition allows it secondary operation will be done. Microscopically, the tumor proved to be a scirrhus carcinoma.

## THE REMARKABLE ACTION OF ICHTHYOL-GLYCERIN

### ON A SEVERE, APPARENTLY HOPELESS, CASE OF LYMPHANGEIO-PHLEBITIS.

By WILLIAM J. ROBINSON, M.D., Ph. G.

THE powers of ichthylol as an antiphlogistic are certainly well known to the medical profession, but the following case possesses such peculiar features, the action of the ichthylol was so unexpectedly prompt and brilliant, the saving of the man's life was so unquestionably due to that agent, that a detailed report may prove both useful and interesting. The case was kindly referred to

me by Dr. F. M. Nye, of 2089 Lexington Avenue, who gave me the following history:

Mr. A. P., fifty-three years old, teacher, had a slight ulcer on his left leg for about four weeks, which he neglected, thinking it would heal "by itself." But it did not heal by itself, the leg began to pain him and to swell, and one morning, about a week before I was asked to take charge of the case, he felt very ill and unable to get up from bed. In spite of treatment, the limb was getting worse, the pain, redness, and œdema increased, and his general condition became alarming: high fever, chills, anorexia, attacks of syncope, etc. On the 24th of July I took charge of the case and the *status præsens* was as follows, according to my notes: Thin, badly nourished individual; expression, apathetic; color of face and eyes, icteric; tongue coated with thick, brown fur; temperature, 101.8°; pulse, 120, small and compressible. Physical exploration of the chest shows dilatation of left ventricle and slight dullness and liquid râles in lower lobes of lungs, indicative of hypostatic congestion. Subjective symptoms: intense headache, absolute anorexia, constipation, chills twice or three times a day, and occasionally an attack of syncope. The leg is swollen to about double its normal size, of an erysipela-tous red, and exquisitely painful. The long saphenous vein is felt as a hard, rigid cord, exceedingly sensitive to the touch. The ulcer on the leg is small, superficial, and altogether insignificant. The man has two inguinal herniæ, which descend through the canals at the least strain. On the back, at the point of pressure of the truss, slight decubitus. I took the case reluctantly, gave a guarded prognosis, and instituted the following treatment. I washed the ulcer with a 1-to-500 HgCl<sub>2</sub> solution and dressed it with iodoform gauze; it healed slowly and gave no further trouble. I prescribed phenacetine and salol powders, of each 0.3, one three times a day, and the following mixture:

R Spir. glonoini .....	0.8 ;
Tr. strophanthi .....	1.5 ;
Strych. sulph .....	0.015 ;
Spir. vini gall. ....	30.0 ;
Inf. digitalis .....	90.0.

S. 3 ss. ter sive quater in die.

This mixture he took regularly, as the attacks of syncope were undoubtedly relieved and prevented by it. For the leg, I ordered continuous hot fomentations of a three-per-cent. solution of acid. carbolium, with lotio plumbi et opii. The fomentations relieved the pain, but the inflammation did not abate in the least. Instead of the carbolio acid I used creolin, a 1-to-1,000 HgCl<sub>2</sub> solution; I then used carbolio and salicylic-acid ointments, but nothing seemed to be able to check its continuous, uninterrupted, upward progress. Not only the entire limb was intensely inflamed and œdematous, but the left side, to about the level of the umbilicus, was in the same condition. The scrotum and penis attained enormous proportions. He was unable to move, and his sufferings were pitiful in the extreme. On the 30th of July I was hastily summoned at 6 A. M., and found his condition such as to give rise to the gravest apprehension. Pulse, threadlike, 140 a minute; temperature, 104°; first heart sound almost inaudible. I administered a hypodermic of digitalis, strychnine, and nitroglycerin, and ordered a twenty-five-per-cent. solution of ichthylol in glycerin. I enveloped the inflamed parts in lint soaked in that solution, and covered it with cotton and oiled silk. I entertained little hope of his recovery. But when I called

in the afternoon of that day, the picture had completely changed. Temperature, 100°; pulse, 96; the redness and oedema diminished to a remarkable degree. The applications were repeated three times a day. On the next day the swelling had completely disappeared from the leg and genitals; on the back it persisted for a couple of days longer. His convalescence from that day on was uninterrupted. On the 5th of August every trace of inflammation had disappeared, but he felt very weak. Under routine tonic treatment (iron, arsenic, strychnine) he gained strength rapidly, and on the 14th of August he was making his visits to his pupils as usual.

**NOTE.**—The man has since had another attack of phlebitis, this time in the right leg. The symptoms were practically the same as in the first attack, though not quite so severe. The treatment outlined above was repeated, but in addition I ordered very large doses of ichthyol internally—a pill of four grains and a half every hour through the day and two or three times during the night. The result was highly satisfactory; in three days he was quite well. Hard nodules are still to be felt in the course of the veins, but are disappearing rapidly under the internal and external use of ichthyol. I may mention that for external use I prescribed the liquid form of ichthyol (ammonium sulph-ichthyolate), and for internal use the solid form (sodium sulphichthyolate).

112 EAST ONE HUNDRED AND TWENTY-EIGHTH STREET.

## Therapeutical Notes.

**Salicylic Acid in the Treatment of Papilloma of the Vulva.**—M. Louis Mercière (*Tribune médicale*, September 30, 1896; *Lyon médical*, October 18, 1896) uses the following formula:

R Salicylic acid..... from 30 to 38 grains;  
Flexible collodion..... 75 “

M. A few drops are to be applied to eight or ten of the warts at a sitting. On the following day eight or ten more may be treated and a fresh application made to the first ones, and so on till they are all cured.

**For Dyspepsia and Vomiting in Tuberculous Subjects.**—According to the *Gazette hebdomadaire de médecine et de chirurgie* for October 15th, Dr. Barth recommends this formula:

R Prepared chalk, } each..... 3 grains;  
Calcedined magnesias }  
Manganese dioxide..... 1½ grain;  
Powdered belladonna.....  $\frac{1}{100}$  “

M. For one dose, to be taken after eating. If there is severe pain,  $\frac{1}{100}$  of a grain of powdered opium may be added.

**The Treatment of Phreno-glottic Spasm in Sucklings.**—Vergniaud (*Journal de clinique et de thérapeutique infantiles*, 1896, No. 29; *Wiener klinische Rundschau*, October 25, 1896) gives a drop or two of chloroform by inhalation during the spasm, and prescribes the following:

R Tincture of musk..... 20 drops;  
Tincture of belladonna..... 10 “  
Cherry-laurel water..... 120 grains;  
Syrup of orange..... 300 “  
Lactucarium water..... 1,500 “

M. S. Five or six teaspoonfuls to be taken twice a day.

## THE NEW YORK MEDICAL JOURNAL, A Weekly Review of Medicine.

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### A BOTANICAL EXCURSION TO MEXICO.

IN connection with the Mexico meeting of the Pan-American Medical Congress we lately spoke of the strong probability that physicians who attended the meeting from the United States and Canada would find themselves in a position to learn much about the varied and interesting medicinal plants of Mexico. Under the same heading as that of this article, Mr. John W. Harshberger contributes to the November number of the *American Journal of Pharmacy* an attractive and profitable account of a visit to Mexico.

With reference to the plant communities into which the flora of so large a country may be divided, regard being had to meteorological, geological, and physical conditions, Mr. Harshberger suggests the following classification of Mexican plants: 1. The hydrophytic community, comprising the water plants. 2. The xerophytic community, or desert plants. 3. The halophytic community, composed of salt-loving plants. 4. The mesophytic community, made up of those found in intermediate situations, such as plants of the tropical forests, palm forests, bamboo thickets, temperate deciduous forests, and subtropical evergreen forests, and plants of the arctic, alpine, and prairie regions.

He speaks of the Valley of Mexico as especially suited to the study of plants with reference to the conditions mentioned. He says: “It is an elevated circular valley closed in by two distinct ranges of hills, the oldest, porphyritic, rocks to the north and east, which, before volcanic disturbances began, sloped gradually southward toward the isthmus, and the newer, volcanic, mountains to the south and west, built up in a later period and closing off to the south and east the gradually sloping plain, thus forming the basin-shaped plateau known as the Valley of Mexico. Ajusco, the oldest volcanic peak, stands like a sentinel on the southern rim of the basin, and from its summit to the base of the valley extends a lava bed known locally as the Pedregal. On the southeast rim of the valley rises the ice-capped peak of Popocatepetl (17,780 feet), and to the eastward, connected with the conical volcano, the ridged backbone of Ixtaccihuatl, also snow-capped, considered by geologists to be built of the older porphyritic rocks.

Along the base of the eastern range three fresh-water lakes, Texcoco, Chalco, and Xochimilcho, are found, while the partially drained basin of Lake Texcoco forms an alkaline plain stretching along the Mexican Railroad to the hills, which jut southward into the plain at Guadalupe."

The hydrophytes are found in the lakes and the communicating ditches; the alpine plants, on the summits of Popocatepetl, Ixtaccihuatl, and Ajusco; the xerophytes, on the lava beds; the halophytes, on the alkali plain near Lake Texcoco, in the greatest number on the Gulf Coast; and varied and luxuriant mesophytes, in the rich agricultural soil of the valley. The agave, maguey, or century plant, commonly found cultivated on the plateau of Anahuac, Mr. Harshberger regards as a typical xerophyte. "It stores up in its tissues," he says, "a surprising amount of a sugary water, which exudes when the plant is tapped as the so-called honey-water, or aguamiel. This aguamiel, when fermented, yields the beverage called pulqué, which is consumed in large quantities by the poorer Mexicans. . . . It is obtained from the plant in the following way: When the agave . . . reaches adult size, turns slightly yellow, and begins to shoot up a flower stalk, or before that time, it is tapped by hollowing out a concavity in the core of the plant at the base of the central leaves, which stand upright and are not yet fully expanded. The pulqué-gatherer, with a long hollow gourd pierced at both ends, draws the aguamiel by suction from the concave place as it wells up from beneath. He is clad in cheap cotton clothes and wears a hide apron fastened around his waist and a thick leather knee-pad on his left leg. Then, pressing the spiny leaves aside with his left knee, he pushes one end of his gourd with his right hand into the tapped place and draws upon the other end with his mouth until he has filled the gourd with maguey liquid. He then transfers it to a vessel made of pottery re-enforced by wicker-work, or, as is the usual custom, he pours it into a vessel made of a hogskin. When his skin vessel is full, he carries it to the shed, where for thirty-six hours the agave juice is allowed to ferment, changing during this process from a yellowish-looking fluid to a milk-white, yeasty-looking liquid. It is a very refreshing and wholesome drink for those high altitudes if taken in moderation."

Pulqué, says Mr. Harshberger, keeps fresh only for a day, when it begins to turn sour. The sour liquid is distilled and yields, according to the process used, either mezcal, tequila, or aguardiente de maguey, all of which are powerful alcoholic drinks. A Mexican Indian addicted to their use, he says, can drink a glass

of any one of them without effect, but two or three glasses will make him demoniacally crazy. We have not space to follow Mr. Harshberger's article further, but must content ourselves with commending it to the reader.

#### EXTENSIVE ACCIDENTAL VACCINATION.

In the *Wiener klinische Wochenschrift* for October 29th Dr. Gustav Riether, an assistant physician to a foundling asylum in Austria, gives an account of the case of a girl baby, seven months old, that was received into the asylum with nearly three hundred vaccinal pocks covering the upper two thirds of the face and encroaching on the chin. This surface had been affected with eczema, and the eczematous area had been inoculated with vaccinia accidentally, it was supposed, from a child that had been vaccinated about three weeks before and had been cared for by the same foster-mother. The eyes were closed, there was an abundant fetid oozing, and there seemed to be great itching. The child failed rapidly and died in a week. A cut made from a cast of the child's face gives a very fair idea of its appearance.

Dr. Riether is aware that the extensive spreading of vaccinal lesions over a surface denuded of epithelium is not a very uncommon occurrence, but in the literature at his command he has found accounts of only four cases that he thinks fairly comparable to his own. He is careful to distinguish the condition from the rare one of a true vaccinal eruption, a "breaking out" of vaccinal lesions, or of other cutaneous lesions, on the sound skin, as the expression of the systemic effect of vaccination—the so-called generalized vaccinia—but it seems to us he is unwise in proposing for the state he describes the names *vaccinia* (already in use among English-speaking physicians to denote the vaccine disease in its ordinary form) and *vaccinosis* (*Vaccinose*), although to the last-named appellation there may not be any special objection.

#### MINOR PARAGRAPHS.

##### A NEW SPANISH JOURNAL.

WE have received one of the early numbers of the *Revista Médica Rural*, published in Blanes, in the province of Gerona, and edited by Señor E. Alabern and Señor M. Balvey, licentiates. It is a semimonthly journal of general medicine. We wish it success.

##### ITEMS.

**The American Association for the Study and Cure of Inebriety.**—The twentieth anniversary of the publication of the *Journal of Inebriety*, and the twenty-sixth year of the Association for the Study and Cure of Inebriety, will



be celebrated by a memorial meeting at the New York Academy of Medicine, on Friday evening, November 20th.

The following addresses and papers will be presented: An Historical Review of the First Meeting of the Association and its Papers and Discussions, by Dr. Lewis D. Mason, of Brooklyn; The *Journal of Inebriety*: its Organization and Growth; the Early and Later Literature, by Dr. T. D. Crothers, of Hartford, Connecticut; The First Asylum for the Care of Inebriates and its Founder, by Dr. Charles H. Shepard, of Brooklyn; The First State Asylum for Pauper Inebriates and its Work, by Dr. M. E. Hutchinson, of Foxboro, Massachusetts; The First Efforts to Treat Opium Cases in Asylums, by Dr. J. B. Mattison, of Brooklyn; The First Home for the Transient Care of Inebriates, by Dr. V. A. Ellsworth, of Boston; Empiric and Charlatan Efforts to Cure Inebriates for the Past Quarter of a Century, by Dr. N. Roe Bradner, of Philadelphia; The History and Influence of Alcohol in Medicine in Modern Times, by Dr. I. N. Quimby, of Jersey City; and The Origin and Growth of Asylums for Inebriates in Great Britain, by Dr. Norman Kerr, of London.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 10, 1896:

DISEASES.	Week ending Nov. 3.		Week ending Nov. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	27	6	22	2
Scarlet fever.....	83	5	91	4
Cerebro-spinal meningitis...	0	0	1	1
Measles.....	41	2	62	3
Diphtheria.....	194	20	213	27
Tuberculosis.....	99	105	161	88

**The Health Department and the Serum Diagnosis of Typhoid Fever.**—Dr. Hermann M. Biggs, the pathologist and director of the bacteriological laboratory, in a communication, dated November 7th, to the Hon. Charles G. Wilson, president of the city board of health, says:

"I desire to direct the attention of the board to a new laboratory method for the diagnosis of typhoid fever which, judging from the data available at the present time, promises to be of very considerable practical value in the diagnosis of early or ill-defined cases of this disease.

"The investigations of Pfeiffer and Widal have shown that the blood of persons suffering from typhoid fever, when mixed with active cultures of the typhoid bacillus, has the power of arresting the active movement of these organisms and of producing peculiar and characteristic clumping of the bacilli. It has been shown that this reaction occurs frequently very early in the course of the disease, that it is found throughout its course, during convalescence, and often for a considerable period after complete recovery. It does not occur with other organisms than the typhoid bacillus, and it does not occur with cultures of the typhoid bacillus when the blood of persons suffering with other diseases is employed. As has been shown by Widal and Johnson, this reaction occurs as well with specimens of dried blood as with fresh blood, and thus can be employed practically for the diagnosis of this disease in municipal laboratories. Observations on this matter which have been in progress in the laboratories of this department for some time past have thus far confirmed the conclusions of previous investigators.

"In order that more numerous data shall be at the command of this department and that physicians of New York may at the earliest moment have facilities for testing the reliability of the observations thus far made, I would respectfully recommend that arrangements be made to place facilities for such examination at the command of all physicians in this city, it being distinctly understood that this action of the department is for the purpose of gaining information on this important subject and at the same time of placing at the command of physicians opportunities for observing the results. If the data already obtained are entirely confirmed by subsequent observations, this method

will undoubtedly prove of great service in the diagnosis of early and obscure cases of typhoid fever.

"Should this action be determined upon, circulars of information as to the method of collecting blood and slides for this purpose may be left at the depots already established for the collection of diphtheria culture tubes and the distribution of diphtheria antitoxine."

Accordingly, the following resolution was adopted by the board at a meeting held on November 6th:

Resolved, That the recommendations of the director of the bacteriological laboratories of this department, contained in the communication dated November 6th, be and are hereby approved, and that he is hereby authorized to place facilities at the command of physicians in this city for the diagnosis of cases of typhoid fever, in accordance with the method prescribed in said communication.

The following notice to physicians has been issued by Dr. Biggs:

"Circulars of information regarding the method employed and slides for collection of blood may now be obtained at the various druggists' where diphtheria culture tubes are kept. Physicians desiring to make use of this method in the diagnosis of early or obscure cases of typhoid fever can procure these, and, after collection of blood as described, may leave the slides, with the data relating to the case, at the various depots. They will be collected each day, examined the following day, and the report of the result forwarded to the physician."

**The American Association of Obstetricians and Gynecologists.**—At the ninth annual meeting, held in Richmond, Virginia, the following officers were elected for the ensuing year: President, Dr. James F. W. Ross, of Toronto; vice-presidents, Dr. George Ben Johnston, of Richmond, and Dr. John C. Sexton, of Rushville, Indiana; secretary, Dr. William Warren Potter, of Buffalo; treasurer, Dr. Xavier O. Werder, of Pittsburgh; members of the executive council, Dr. Charles A. L. Reed, of Cincinnati, Dr. Lewis S. McMurtry, of Louisville, Dr. A. Vander Veer, of Albany, Dr. J. Henry Carstens, of Detroit, and Dr. William E. B. Davis, of Birmingham, Alabama. The next annual meeting was appointed to be held at the Cataract House, Niagara Falls, N. Y., on Tuesday, Wednesday, Thursday, and Friday, August 17, 18, 19, and 20, 1897.

**The Buffalo Academy of Medicine.**—At the last meeting of the Section in Medicine, on Tuesday evening, the 10th inst., the following papers were to be read: A Case of Chronic Diarrhoea successfully Treated by Lavage, by Dr. S. A. Dunham; The Importance of Early Attention to Hypertrophy of the Naso-pharyngeal Lymphoid Tissue, by Dr. F. W. Hinkel; and The Reflex Effects in the Pharynx and Mouth of Intranasal Disease, by Dr. Horace Clark.

**A Lecture on the Byzantines** was given before the Deutschergesellig-wissenschaftlicher Verein by Dr. Achilles Rose on Thursday evening, November 12th.

**The Death of Professor H. Newell Martin**, late of the faculty of the Johns Hopkins University, Baltimore, took place in England on Thursday, October 29th. Dr. Martin was forty-eight years old at the time of his death. He was a native of Ireland.

**Dr. Fowler's Work on Appendicitis.**—We notice that a German translation of Dr. George R. Fowler's work, with an introduction by Professor Landrer, of Stuttgart, is announced in Berlin.

**Changes of Address.**—Dr. T. Bull, to No. 472 West One-hundred-and-forty-seventh Street, New York; Dr. S. M. Johnson, to No. 51 West Ninth Street, New York; Dr. Boardman Reed, from Atlantic City, New Jersey, to No. 1831 Chestnut Street, Philadelphia (for the winter).

**Army Intelligence.**—Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 25 to November 7, 1896:

The following named recently appointed assistant surgeons will repair to this city (Washington) and report in person on November 4, 1896, to the president of the Army Medical School for the course of instruction prescribed

in General Orders No. 78, September 22, 1893, from A. G. O.:

DARNALL, CARL ROGER, First Lieutenant;  
 DUTCHER, BASIL HICKS, First Lieutenant;  
 FULLER, LEIGH AUSTIN, First Lieutenant;  
 KEMP, FRANKLIN MIDDLETON, First Lieutenant;  
 RICHARDS, WILLIAM EVANS, First Lieutenant;  
 SKINNER, GEORGE ALFRED, First Lieutenant.

MOSELEY, EDWARD B., Major and Surgeon, is granted leave of absence for four months, to take effect upon being relieved from duty at Fort Monroe, Virginia.

STONE, JOHN H., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Leavenworth, Kansas, and ordered to Fort Riley, Kansas.

#### Promotions.

To be Assistant Surgeons with rank of Captain, after five years' service, October 31, 1896:

FISHER, HENRY C., First Lieutenant and Assistant Surgeon;  
 KIEFFER, CHARLES F., First Lieutenant and Assistant Surgeon;  
 SHAW, HENRY A., First Lieutenant and Assistant Surgeon.

#### Appointments.

To be Assistant Surgeons with the rank of First Lieutenant, October 26, 1896:

DARNALL, CARL R., of Texas;  
 DUTCHER, BASIL H., of New York;  
 FULLER, LEIGH A., of New Jersey;  
 KEMP, FRANKLIN M., of New York;  
 RICHARDS, WILLIAM E., of Mississippi;  
 SKINNER, GEORGE A., of Minnesota.

#### Naval Intelligence.—Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 7, 1896:

BLAKEMAN, R. S., Assistant Surgeon. Detached from the U. S. Steamer Vermont and ordered to the U. S. Steamer Boston.

CARPENTER, D. N., appointed as Assistant Surgeon and ordered to the Naval Laboratory and Department of Instruction, New York.

FARENHOLT, A., Assistant Surgeon. Detached from the Mare Island Naval Hospital and ordered to the U. S. Steamer Oregon.

HENEBERGER, L. G., Surgeon. Ordered to the U. S. Steamer Maine.

KENNEDY, R. M., Passed Assistant Surgeon. Detached from the U. S. Steamer Patterson, ordered home, and granted three months' leave of absence.

LUMSDEN, G. P., Surgeon. Detached from the U. S. Steamer Yorktown, ordered home, and granted three months' leave of absence.

NEILSON, J. L., Medical Inspector. Detached from the U. S. Steamer Maine and placed on waiting orders.

PAGE, J. E., Passed Assistant Surgeon. Detached from the U. S. Steamer Boston and ordered to the U. S. Steamer Yorktown.

PALMER, S. B., Assistant Surgeon. Detached from the Naval Laboratory, New York, and ordered to the U. S. Steamer Vermont.

PLEADWELL, F. L., Appointed as Assistant Surgeon and ordered to the Naval Laboratory and Department of Instruction, New York.

ROTHGANGER, G., Passed Assistant Surgeon. Detached from the U. S. Steamer Oregon and ordered to the U. S. Steamer Patterson.

WHEELER, W. M., Assistant Surgeon. Detached from the U. S. Steamer Franklin and ordered to the Naval Hospital, Mare Island.

#### Marine-Hospital Service.—Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Sixteen Days ending October 31, 1896:

PURVIANCE, GEORGE, Surgeon. Placed on waiting orders from November 3, 1896. October 27, 1896.

SAWTELLE, H. W., Surgeon. Detailed to represent the service at the Pan-American Medical Congress, to be held in the City of Mexico. October 28, 1896.

WHEELER, W. A., Surgeon. Granted leave of absence for three days. October 16, 1896.

PECKHAM, C. T., Passed Assistant Surgeon. Directed to proceed from Port Townsend, Wash., to Detroit, Mich., for duty. October 27, 1896.

GLENNAN, A. H., Passed Assistant Surgeon. Granted leave of absence for nine days from December 23, 1896.

PETTUS, W. J., Passed Assistant Surgeon. To assume temporary command of the service at Norfolk, Va., in addition to his other duties. October 24, 1896.

MAGRUDER, G. M., Passed Assistant Surgeon. Detailed as inspector of immigrants at Galveston, Texas. October 24, 1896.

WERTENBAKER, C. P., Passed Assistant Surgeon. To proceed from Delaware Breakwater Quarantine to Philadelphia, Pa., for temporary duty. October 16, 1896.

YOUNG, G. B., Passed Assistant Surgeon. Leave of absence extended five days. October 16, 1896.

NYDEGGER, J. A., Passed Assistant Surgeon. To proceed from South Atlantic to Brunswick, Ga., Quarantine for temporary duty for thirty days. October 26, 1896.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for five days. October 22, 1896.

PROCHAZKA, EMIL, Assistant Surgeon. To proceed from Cairo, Ill., to Delaware Breakwater Quarantine for temporary duty. October 16, 1896.

CUMMING, H. S., Assistant Surgeon. Relieved from duty at Evansville, Ind., and directed to rejoin station on expiration of present leave, at New York, N. Y. October 22, 1896.

#### Resignation.

HAMILTON, JOHN B., Surgeon. Resignation accepted to take effect November 13, 1896. October 16, 1896.

#### Society Meetings for the Coming Week:

MONDAY, November 16th: New York Academy of Medicine (Section in Ophthalmology and Otolaryngology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society; Boston Society for Medical Improvement; Cleveland Society of the Medical Sciences.

TUESDAY, November 17th: New York Academy of Medicine (Section in General Medicine); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chemung (semiannual), Kings, and Livingston (quarterly), N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, November 18th: Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, November 19th: New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private).

FRIDAY, November 20th: New York Academy of Medicine (Section in Orthopaedic Surgery); Brooklyn Medical Society; Baltimore Clinical Society; Chicago Gynecological Society; St. Louis Academy of Medical and Surgical Sciences.

SATURDAY, November 21st: Clinical Society of the New York Post-graduate Medical School and Hospital; St. Louis Medical Society.

#### OBITUARY NOTES.

Edward H. Parker, M. D., of Poughkeepsie.—Dr. Edward Hazen Parker died on Tuesday, November 10th, at his home, in Poughkeepsie, aged seventy-three years. He was a graduate of the Jefferson Medical College, of the class of 1848. A number of years ago he practised in New York and was a member of the faculty of the old New York Medical College. For many years before his death, however, he had lived in Poughkeepsie. He had much more than a local reputation as a physician, and was known as a forcible writer and an agreeable speaker. On Thursday evening, November 12th, the Medical Society of the County of Dutchess held a special meeting in respect for his memory.



## Births, Marriages, and Deaths.

### Married.

BENNETT—LAIDLAW.—In New York, on Thursday, November 5th, Dr. Imlay Bennett and Miss Edith Laidlaw.

CANTELOU—HILL.—In Edgefield, South Carolina, on Thursday, October 29th, Mr. Joseph Cantelou and Miss Tweedie Hill, daughter of Dr. J. Walter Hill.

CROSBY—DELAFIELD.—In New York, on Wednesday, November 11th, Mr. Frederick V. S. Crosby and Miss Julia Floyd Delafield, daughter of Dr. Francis Delafield.

HEBERT—DUCOTE.—In Cottonport, Louisiana, on Wednesday, November 4th, Mr. Clarence Hebert and Miss Ethel Lea Ducote, daughter of Dr. Cleophas J. Ducote.

LONGENECKER—DAVISON.—In Brooklyn, on Wednesday, October 28th, Dr. William Roger Longenecker and Miss Pearl Davison.

RUOFF—GRAMM.—In New York, on Thursday, November 5th, Dr. William Ruoff, of Philadelphia, and Miss Louise Gramm.

SCOVIL—KESSLER.—In Richmond Hill, N. Y., on Thursday, November 5th, Dr. William Thomas Scovil and Miss Hattie Augusta Kessler.

### Died.

LANGAN.—In Oswego, N. Y., on Thursday, November 5th, Dr. John T. Langan, aged forty years.

LYONS.—In New Orleans, on Saturday, November 7th, Dr. John J. Lyons, aged sixty-three years.

PARKER.—In Poughkeepsie, on Tuesday, November 10th, Dr. Edward Hazen Parker, aged seventy-three years.

RANKIN.—In Newport, Rhode Island, on Monday, November 9th, Dr. Francis Huntington Rankin, in the fifty-first year of his age.

## Book Notices.

*The Physiology and Pathology of the Cerebral Circulation.* An Experimental Research. By LEONARD HILL, M. B., Hunterian Professor, Royal College of Surgeons, London, etc. London: J. & A. Churchill, 1896. Pp. xvi+208. [Price, \$4.20.]

PROFESSOR HILL's work demonstrates two things, the usefulness of endowments for scientific research and the inestimable value of physiological experimentation to an understanding of pathological conditions. The work of five years, attractively summarized in this book of two hundred pages, was largely performed while the author was holding the research scholarship of the Grocers' Company. It covers a field that is interesting alike to the physiologist, the pathologist, the clinician, and the surgeon. The problem that Hill set himself to solve was this: Given a skull of rigid bone, inclosing an incompressible brain; given arteries entering the cavity, permeating and anastomosing in the pia mater, then entering the nervous matter, and ending in capillaries; given veins that arise from the capillaries and form huge cranial sinuses, which in turn give origin to outgoing veins; and, finally, given a minute quantity of cerebro-spinal fluid pervading the small space between the brain and its bony case—what is the hydrodynamics of such a cranium? By trephining the cranial wall and connecting the cavity with a manometer Hill measured the intracranial (subdural) pressure; by a similar method applied to the torcular Herophili he measured the cerebral venous pressure; and these data were compared with the general arterial and the general venous pressures of the systemic circulation. His experiments, which cover a very wide field, confirm

and refute many old ideas, present a host of new results, and suggest new points of view, some of which are here presented.

The cardiac and respiratory movements of the brain exist in the closed cranium. The subdural and subarachnoid spaces are physiologically one. The pressure of the cerebro-spinal fluid is normally the same as that of the blood in the cerebral veins. Irrigation of the brain and spinal cord through one trephine opening is possible and harmless. Irrigation of the meninges in such conditions as meningitis might be employed as safely as irrigation of the peritonæum. Removal of the cerebro-spinal fluid gives place to a serous transudation. No pathological increase of cerebral tension can be transmitted by the cerebro-spinal fluid, because of the relation of the latter to the venous pressure. No evidence of the existence of cerebral vaso-motor nerves or of a local vaso-motor mechanism was found. Intracranial pressure varies directly with general venous pressure and proportionately with arterial pressure. The volume of blood in the brain in physiological conditions is only slightly variable. The cerebral circulation is controlled by the bulbar vaso-motor centre acting on the splanchnic area. This vaso-motor mechanism compensates for the important effects of gravity on the circulation, and the compensation is more complete in upright animals, *e. g.*, monkeys and probably man, than in animals that walk on all fours. Chloroform paralyzes this compensatory vaso-motor mechanism rapidly; ether, slowly. Elevation or rhythmic compression of the abdomen and thorax compensates for chloroform paralysis and restores the animal from collapse. The symptoms of cerebral anæmia are exactly comparable to those of asphyxia. Probably both common carotid arteries can be safely tied in man if each artery is gradually closed by a screw clamp with time intervals between successive compressions. Sleep is accompanied by cerebral arterial anæmia and venous congestion, and is directly related to the activity of the splanchnic vaso-motor area. The brain is not, as Mosso thought, the seat of active metabolism. A foreign body within the cranial cavity increases cerebral pressure only by acting on the vessels. A small opening into the cavity does not necessarily relieve compression. Either the foreign body must be removed or a large opening made, sufficient to allow of expansion of the cranial contents.

Besides these conclusions, a host of others are presented, and the applications of the scientific results are constantly pointed out. The various conclusions do not appear to be equally well supported by the experimental facts, and the inference regarding slight brain metabolism is hardly warranted. The work, however, marks a distinct advance in a difficult field of research, and the clinician and the surgeon can hardly fail to learn much from it.

*Lehrbuch der Haut- und Geschlechtskrankheiten für Aerzte und Studierende.* Von Dr. MAX JOSEPH. in Berlin. Zweiter Theil. Geschlechtskrankheiten. Zweite vermehrte Auflage. Mit 29 Abbildungen im Text und einer farbigen Tafel. Leipzig: Georg Thieme, 1896. Pp. viii+416.

THE second edition of Joseph's work on skin and venereal diseases, of which the present volume deals with the latter class of ailments, is, like the first edition of four years ago, an exhaustive review of the



subject. Like all German text-books, this one goes minutely into the pathology of the diseases it describes, and, though very much of it is borrowed, a large part represents Joseph's own investigations. Those only who have studied with him know the capacity and the faithfulness of the author.

The first part of the work deals with syphilis and its many complications. Joseph gives a good prognosis for syphilis if they are kept under constant supervision and upon strict antisyphilitic treatment. And yet he recognizes the difficulties of offering a prognosis in any individual case, and makes the suggestion that the moral as well as the physical care of the patient be a consideration to the physician. He believes in the curability of syphilis, and cites the possibility of reinfection as a proof of it.

Like most syphilographers, Joseph regards the chancre as a specific lesion, but one that never gives rise to constitutional changes. The exact nature of the poison which causes the chancre is unknown. Finger's experiments seem to prove that the site of contagion has much to do with the infection, as to its susceptibility or lack of it; while Köbner's inoculation experiments lead the author to the conclusion that the lesion is caused by a specific micro-organism.

Joseph has not had good results with the Janet treatment in acute gonorrhœa, but says that several cases of chronic gonorrhœa have yielded to this method of injecting potassium permanganate. There is nothing new, or at least nothing strikingly new, in the rest of the chapter on gonorrhœa. The author states in capitals that the gonococcus of Neisser is the etiological factor of blennorrhagic affections.

The book is well printed on heavy paper and is very well illustrated.

*Traité de chirurgie clinique et opératoire.* Publié sous la direction de M. A. LE DENTU, professeur de clinique chirurgicale à la Faculté de médecine de Paris. et M. PIERRE DELBET, professeur agrégé à la Faculté de médecine de Paris, par M. ALBARRAN, M. ARROU, M. J.-W. BINAUD, M. H. BRODIER, M. CAHIER, M. CASTEX, M. A. CHIPAULT, M. J.-L. FAURE, M. M. GANGLOPHE, M. A. GUINARD, M. JABOULAY, M. LEGUEU, M. F. LUBET BARBON, M. C. LYOT, M. P. MAUCLAIRE, M. H. MORESTIN, M. H. NIMIER, M. P. PICHEVIN, M. A. RICARD, M. H. RIEFFEL, E. M. SCHWARTZ, M. P. SEBILEAU, M. CH. SOULIGOUX, M. A. TERTSON, et M. F. VILLAR. Tome premier. Pathologie générale. Maladies de l'appareil tégumentaire. Par M. H. NIMIER, M. A. RICARD, M. J.-L. FAURE, M. A. LE DENTU, M. C. LYOT, M. H. BRODIER, et M. PIERRE DELBET. Avec 64 figures intercalées dans le texte. Paris: J.-B. Baillière et fils, 1896. Pp. viii-823.

This new French system of surgery, if one may judge from the first volume, will be an exhaustive treatise on the subject. The French seem to have regarded the method of "systèmes" as a good one to follow; but even this excellent text-book contains the faults inherent in all works written by different men. The first volume deals with general and special surgical pathology, and, although the editors appear to have tried to harmonize the work, there are many differences of opinion as to the pathology of tumors.

The first part of the book is devoted to confusions and wounds, with an elaborate discussion as to their pathology and a thorough review of their aseptic and

antiseptic treatment. This is followed by a chapter on the complications of wounds, including, first, pain, hæmorrhage, and foreign bodies; second, mental symptoms; third, septic complications. Suppuration, septicæmia, and pyæmia are next considered, and the succeeding chapter deals with the lesions which destroy tissue. A lengthy review of the malignant infectious diseases and of neoplasms concludes the first part of the book. The second portion is devoted to the surgical diseases of the skin. There is nothing new, either in classification or in subject matter, which appeals to the reviewer. The book is wholesome and safe and should certainly prove valuable to the French student and to surgeons in general.

The volume is very well printed on good paper. The illustrations are, as a rule, poor, particularly those of the tumors. German writers are given frequent credit, but Frenchmen can not or will not spell German names correctly.

*Southall's Organic Materia Medica.* Being a Handbook treating of some of the more Important of the Animal and Vegetable Drugs made Use of in Medicine, including the Whole of those contained in the British Pharmacopœia. Designed for the Use of Teachers, Pharmaceutical and Medical Students, Chemists, Druggists, and Others. Fifth and Enlarged Edition by JOHN BARCLAY, B. Sc. Lond., Sometime Lecturer on Materia Medica and Pharmacy in Mason College, Birmingham. London: J. & A. Churchill, 1896. Pp. xix-307. [Price, \$2.10.]

Those who wish a small work in which the organic materia medica is considered from the botanical standpoint and is treated rather for pharmaceutical purposes than for physicians, may wisely possess themselves of this book. It is not adapted to the use of medical men as we view that use, for of the medicinal application of remedies it contains but the briefest utterances; but chemically and botanically important matters are well though briefly presented, and the arrangement of the book is such as to make its contents readily available. It conforms to the British Pharmacopœia, however, which fact will, in spite of its advantages to the pharmacist, militate much against its usefulness in this country.

*A Handbook of Pathological Anatomy and Histology.* With an Introductory Section on Post-mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., LL.D., Professor of the Practice of Medicine, College of Physicians and Surgeons, New York, etc., and T. MITCHELL PRUDDEN, M.D., Professor of Pathology and Director of the Laboratories of Histology, Pathology, and Bacteriology, College of Physicians and Surgeons, New York. Fifth Edition. Illustrated by Three Hundred and Sixty-five Wood Engravings printed in black and Colors. New York: William Wood & Co., 1896. Pp. viii-3 to 846.

The fifth edition of this well-known work shows that the object, the aim, and the character of its immediate predecessor remain unchanged. That the revision has been well and satisfactorily done, it is scarcely necessary to say, and by consideration of the recent additions to pathological knowledge the work ably maintains and continues the value possessed by the former

editions. The addition of a number of very excellent illustrations contributes largely to the greater usefulness of the recent edition, and the work remains one of the best upon the subject of which it treats, for, above all things, it is practical.

*A Text-book of Diseases of the Nose and Throat.* By FRANKCE HUNTINGTON BOSWORTH, A. B. Cantab., A. M., M. D., Professor of Diseases of the Throat in Bellevue Hospital Medical College, New York, etc. Illustrated with One Hundred and Eighty-six Engravings. New York: William Wood and Company, 1896. Pp. xix-3 to 814.

DR. BOSWORTH'S work on the nose and throat, in two volumes, is doubtless known to the majority of our readers, and the work now under consideration therefore needs little save mention, for, as the preface says, it is mainly a condensation of the author's former two volumes into one, in which the effort has been to retain all that is of practical use so far as possible. This, he says, has been accomplished by eliminating those parts of the work which were of value only for reference, and he trusts that it has been done to the satisfaction of the reader. Some new material has been added, and some few changes have been made, but in essentials, he adds, the single volume is the same as the larger edition.

It would be a carping reader, indeed, to whose satisfaction the work had not been done, for to our mind the single volume presents many advantages over its two-volume predecessor. No doubt the specialist may prefer the latter, though he is not likely to complain of insufficiency in the former, but to the general practitioner the single volume is far more suited, and by him will be far more highly appreciated. The student of medicine, too, will find this work more available than the former edition, though for him we think even the single volume is somewhat too plethoric. We think, therefore, that the work has its most useful field among general practitioners, and to these it can be most warmly commended.

*A Manual of Materia Medica and Pharmacology.* Comprising all Organic and Inorganic Drugs which are and have been Official in the United States Pharmacopœia, together with Important Allied Species and Useful Synthetics. Especially Designed for Students of Pharmacy and Medicine, as well as for Druggists, Pharmacists, and Physicians. By DAVID M. R. CULBRETH, Ph. G., M. D., Professor of Botany, Materia Medica, and Pharmacognosy in the Maryland College of Pharmacy. With Four Hundred and Forty-five Illustrations. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-17 to 818. [Price, \$4.75.]

THAT this work will unquestionably be of service to students of pharmacy and to the pharmacists is not to be denied, for it is an able and thorough consideration of the materia medica, both official and unofficial, studied from the botanical and pharmaceutical standpoint. That it will be of any service to medical men, students or practitioners, is improbable, to say the least, for its therapeutics is scanty, and botany and pharmacy, the very things which medical teachers most wisely minimize, are here made pre-eminent. The medical student of the present day has far too much that is vital to learn to waste time upon the unnecessary, but, notwithstanding his overburdened condition, enthusiastic spe-

cialists would add to his information (and his burdens) by treatises "designed for the use of medical students" which they fondly think are suited to his needs, whether they are or are not. Botany and pharmacy are prominent among the subjects which are not, a fact which medical teachers generally recognize, and which some day pharmaceutical teachers will come to learn.

Although we fail to see the utility of this work in the case of the medical man, save possibly as a work for occasional reference, we must value it highly for the use of the pharmaceutical student, for whom its completeness and its well-ordered arrangement will certainly render it valuable.

#### BOOKS, ETC., RECEIVED.

*Human Anatomy. General and Descriptive. For the Use of Students.* By John Cleland, M. D., LL. D., D. Sc., F. R. S., Professor of Anatomy in the University of Glasgow, and John Yule Mackay, M. D., C. M., Professor of Anatomy in University College, Dundee, etc. With Six Hundred and Thirty Illustrations, of which Two Hundred and Fifty-seven by the Authors are now Printed for the First Time. New York and London: The Macmillan Company, 1896. Pp. xx-833. [Price, \$6.50.]

*A Treatise on Surgery.* By American Authors. For Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A. M., M. D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, etc. Volume II. Special or Regional Surgery. With Four Hundred and Fifty-one Engravings and Seventeen Full-page Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. 7 to 804.

*The Surgery of the Chest.* By Stephen Paget, M. A. Oxon., F. R. C. S., Surgeon to the West London Hospital, etc. Illustrated. New York: E. B. Treat. Bristol: John Wright & Co. Montreal: J. Hood Company, 1896. Pp. x-479.

*Skiascopy and its Practical Application to the Study of Refraction.* By Edward Jackson, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polytechnic and College for Graduates in Medicine, etc. Second Edition. With Twenty-seven Illustrations. Philadelphia: The Edwards & Docker Company, 1896. Pp. 7 to 108.

*Transactions of the American Climatological Association.* For the Year 1896. Volume XII, containing Part II of the Report of the Committee on Health Resorts.

*The Treatment of Habitual Constipation.* By Max Einhorn, M. D. [Reprinted from the *Post-Graduate*.]

*Enteroptosis.* By Max Einhorn, M. D. [Reprinted from the *Medical News*.]

*On Functional Disorders of the Stomach accompanied with Hypersecretion.* By Max Einhorn, M. D. [Reprinted from the *Medical Record*.]

*Intestinal Obstruction after Laparotomy.* By Henry O. Marcy, M. D., of Boston. [Reprinted from the *Journal of the American Medical Association*.]

*The Want of College Instruction in Electrotherapeutics.* By Robert Newman, M. D. [Reprinted from the *Electrical Journal*.]

*The Surgical Treatment of Hemorrhoids by Excision and Closure with the Buried Animal Suture.* By Henry O. Marcy, M. D. [Reprinted from the *American Journal of Obstetrics*.]



Clinical Notes on Methods and New Remedies in the Treatment of Diseases of the Upper Air Passages. By Walter F. Chappell, M. D. [Reprinted from the *Canada Lancet*.]

De l'emploi de l'ichthyol dans le traitement de la tuberculose pulmonaire. Par le Dr. Maurice Le Tanneur, Médecin de l'hôpital dispensaire de Belleville. [Extrait du *Journal de médecine de Paris*.]

## Reports on the Progress of Medicine.

### OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

**Antiseptic Treatment of Simple Chronic Suppuration of the Tympanic Cavity; Systematic Tamponing of the External Auditory Canal with Iodoform Gauze.**—Fongery (Ann. des mal. de l'oreille et du larynx, June, 1895) draws the following conclusions from his observations:

1. The external auditory canal is a channel by which the middle ear often becomes infected by penetration of staphylococci into the tympanic cavity.

2. The use of non-sterilized cotton tampons has been known to cause secondary infection. The method of exposure to the flame of alcohol saturated with boric acid is very simple and should be always employed.

3. To avoid the spread of secondary infection from non-sterilized cotton or dirty cotton, the external auditory canal should always be tamponed by iodoform gauze. This method is very simple, antiseptic, easy of application, arrests all germs contained in the air, and is well borne by the patients.

**The Treatment of Cholesteatoma of the Petrous Bone with a Permanent Retro-auricular Opening.**—Reinhard (Arch. of Otol., xxiv, 2) believes that the only way of bringing about a permanent cure in these cases is to produce a permanent opening toward the external meatus as well as in the lateral wall. This is to be accomplished in one of three ways: 1. By implantation of broad-based cutaneous flaps from the scalp by Schwartz's method. 2. By Thiersch's transplantations. 3. By cutaneous flaps from the posterior surface of the concha. This prevents the subsequent growth of hair into the cavity. The cutaneous flap should be formed at the beginning of the operation by cutaneous incisions down to the cartilage, one centimetre behind the external margin of the concha; then dissect the flap up to the mastoid process, placing its largest side upon the upper angle of the wound; and finally make the typical parallel incision behind the concha down to the periosteum. The cutaneous defect of the concha may be covered by Thiersch's transplantations.

**The Evils of Wilde's Incision.**—Chippault and Demoulin (Ann. of Ophth. and Otol., iv, 4; also Ann. des mal. de l'oreille et du larynx) think that Wilde's incision has no advantages, and causes the loss of valuable time. If there is really pus in the mastoid cells, the external incision does little good. It is only useful in cases of simple periostitis. In cases of purulent mastoiditis the incision is not reasonable, because it does not attack the seat of the trouble, but merely relieves the one symptom of pain.

**Ethmoiditis Suppurativa, Acuta and Chronica; Cause, Diagnosis, and Treatment.**—Farber (Ann. of Ophth. and

Otol., January, 1896) regards this disease as of common occurrence, and the result of acute rhinitis which has extended through the anterior ethmoidal cells to the frontal sinuses. There is a history in all cases of one or several attacks of inflammation of the frontal sinuses, severe frontal headache, chill, fever, etc. Many cases of this character go on to complete resolution and cure; many more end in the chronic form. The treatment for the acute cases, which should be rigidly carried out, should be confinement to the house for eight or ten days, purgation, hot foot-baths, opium, belladonna, acornite, and quinine.

The symptoms of chronic anterior ethmoiditis are frequent headaches and the presence of a thick, almost purulent discharge, and a large, tough scab coming from one side of the nose, with a more or less catarrhal condition of the nasopharynx. The discharge and the peculiar scab are diagnostic. The latter is found on the middle turbinate near its anterior extremity, extending over to the septum, and completely blocking the superior meatus. The secretion is soft, slightly tenacious, and greenish-white in color. On its under side it is hard and dry, brownish-yellow, deeply concave, and holds its shape when discharged. The pus, dripping from above, gradually fills the superior meatus and runs back to the nasopharynx. There is practically no odor perceptible to others, but the patient himself is conscious of a slight stench.

The treatment consists first in remedying the existing hypertrophies, keeping the nares clean, and opening up the anteriorethmoidal cells through the infundibulum. The anterior end of the middle turbinate should be cut off with a small bone forceps, so as to prevent the accumulation of secretion and give drainage. The infundibulum must then be opened by the dentist's drill, and its direction, starting from the level of the amputated middle turbinate, should be backward, upward, and outward toward the anterior ethmoidal foramen. The structure is easily penetrated, and the pain is not great, and may be alleviated by cocaine. Two or three openings will be sufficient. The size of the "burr" should be about an eighth of an inch, and it should penetrate from a quarter to half an inch, or until the drill has penetrated a cell. Hæmorrhage is not excessive, but is more or less oozing and constant, and therefore it is better to pack the nose. The openings should then be flushed with sublimate solution (1 to 4,000) or with hydrogen peroxide. The edges of the openings should be cauterized with the galvanocautery.

**The Paracausis of Willis.**—D'Aguanno (Ann. des mal. de l'oreille et du larynx, February, 1896) concludes from his observations that paradoxal deafness is a phenomenon which is symptomatic either of torpor of the auditory nerve or flexion of the drum cavity. The tympanic affection which occasions it may be due either to an interruption in the chain of bones, or to a relaxation of the ligaments of the ossicles, or to degeneration of the intratympanic muscles.

**The Importance of the Cochlea and its Different Segments for the Function of Audition.**—Corradi (Ann. des mal. de l'oreille et du larynx, April, 1896) draws the following conclusions from his experiments: 1. It is probably true that the cochlea is the organ of acoustic sensations. After the bilateral destruction of this organ in guinea-pigs, the latter become absolutely deaf. 2. If those portions of the internal wall of the drum cavity round the base of the cochlea be destroyed, while the



latter is left intact, the hearing is maintained. 3. The hearing for different tones, from highest to lowest, is uniform in all the segments of the cochlea. If, on destroying the upper part of the cochlea in guinea-pigs, the acoustic reaction for low and middle tones disappears, while it may be preserved for high tones, this reaction for low and middle tones is much more manifest. It is therefore natural that this reaction for low and middle tones, which is feeble in the normal state, should be completely wanting in the operated animal. This opinion is confirmed by the fact that in attacking the summit of the cochlea the acoustic reaction ceases sometimes even for certain extremely high tones and may be maintained for low tones, and that the reaction for high tones may persist of injury to the base of the cochlea.

**The Hearing Power in Cases of Bilateral Congenital Atresia of the Auditory Canal with Rudimentary Auricle.**—Bezold (*Arch. of Otol.*, xxv, 2) thinks that in these cases the disturbance is limited to the external and middle ear, and affects particularly the annulus tympanicus, which is mostly wanting; then the malleus and incus, which are absent or rudimentary, and, as a rule, also, the stapes. The hearing power in these cases may be considered that of an intact labyrinth shut off from the action of aerial waves of sound, and with disturbances in the conducting chain. The abnormalities in the conducting apparatus, in cases of congenital atresia, are so manifold that they can not be brought into a single category. It must be left an open question whether there can be any hearing when the tympanum is entirely absent. It must also remain doubtful whether there can be any hearing when one or both labyrinth windows are congenitally absent. In grouping together the results of auditory tests in these cases, we find (1) a lengthening of the normal time for bone conduction, (2) a marked negative Rinné, and (3) a defect for low tones by bone conduction.

**Some of the Peculiarities of the Negro in Otolgy.**—Roaldes (*Rev. de laryngol. et d'otol.*, December 15, 1895) notes that in the negro the concha is smaller and more fleshy than in the white. The outlines of elevations and depressions of the anterior surface are less graceful. The concha is more closely applied to the skull than in the white. The external auditory canal is more developed and spacious and much straighter in the negro. The mastoid apophysis is less developed, the cortical portion is harder and thicker, and the antrum is less spacious in the negro. The nasopharynx is very much more spacious, the mouths of the Eustachian tubes are much larger in the negro, and the septum nasi is much straighter and more regular than in the white.

The negro is much less prone to eczema of the auricle and canal, but is more liable to cheloid degeneration than the white. Deafness of all kinds is much less common in the negro, and this is also true as regards deaf-mutism.

**Cavernous Angioma of the Ear.**—Moure (*Rev. de laryngol. et d'otol.*, December, 1895) reports a case of this kind occurring in a woman aged forty-seven years. At the entrance of the external auditory canal was a deep-red tumor, like a grain of wheat, and below it a smooth, grayish-pink globular tumor, which leaned to the superior or postero-superior wall of the drum cavity. It was surrounded by pus. The tumor was removed by the snare, and this was immediately followed by a large quantity of black blood. This flow was eventually arrested by tampons of borated cotton, and later

by iodoform gauze. This was followed by considerable swelling and rise in temperature, so that on the fourth day part of the gauze tampon was removed. The microscope proved the tumor to be a fibro-angioma.

**The Role of Staphylococci in Otorrhœa.**—Lermoyez and Helme (*Ann. des mal. de l'oreille et du larynx*, July, 1895) draw the following conclusions from their observations: 1. The *Staphylococcus pyogenes*, rare in the beginning of purulent otitis, becomes very frequent as the otorrhœa becomes chronic. 2. Their tardy appearance is the result of a secondary infection which has been experimentally demonstrated. 3. There is no proof that they do not come from the external auditory canal, but, on the contrary, both clinical and experimental facts prove their tardy arrival by this channel. 4. Extemporaneous sterilization by means of the flame of borated alcohol is the simplest method of protecting the ear from secondary invasion.

**The Disturbances of Equilibrium in Diseases of the Ear.**—Von Stein (*Arch. of Otol.*, xxv, 1) states that disturbances of co-ordination may occur in ear diseases:

1. With the eyes closed (in the absence of ataxy and alterations of sensibility).
2. With the eyes open, the rapid movements never attain their normal correctness and promptitude, but are often doubtful and slow.
3. They may be only observed in certain situations and directions.
4. They are not always equally divided between the two lower extremities.
5. There is polymorphia in the disturbances.
6. Easy weariness, especially with closed eyes.
7. A smaller angle of inclination on the goniometer.
8. With simultaneous diminution of hearing or another disease of the ear.
9. Tinnitus or loss of hearing.
10. With some nasal diseases, as adenoids and hypertrophic rhinitis.
11. Attacks of vertigo, with exclusion of nervous and ocular disease.
12. The patient, on falling, retains his consciousness.

From a prognostic point of view, the more marked, permanent, or manifold the disturbances of equilibrium in a peripheral disease of the ears, with simultaneous loss of hearing, the less hope there is of any restoration of hearing.

**The Treatment of Intracranial Abscesses following Purulent Diseases of the Ear.**—Barr (*Arch. of Otol.*, xxiv, 3 and 4) suggests the following subjects for full discussion:

1. It is desirable that the pure otologist should himself operate on the skull and brain in these intracranial complications of ear disease.
2. Should the interior of the cranium be opened, even when the symptoms point to diffuse meningitis?
3. What is the best method of dealing with a thrombosed lateral sinus? Ligating the jugular vein, or incision and pressure?
4. What is the best method of perforating the bone while opening the cavities of the middle ear, or the cranial septa of the middle ear?
5. The value of operative treatment on the cavities of the middle ear for the cure of intractable purulent cases, as preventive of intracranial abscesses.

**The Aura of Auricular Vertigo.**—Gellé (*Ann. des mal. de l'oreille et du larynx*, March, 1896) concludes that the sensory or motor phenomena premonitory of an

attack of auricular vertigo clearly show that the irritations of the auditory nerve in man produce not only the diverse perturbations of the equilibrium and of movements which we see in experiments in the laboratory, but that they also act on the psychic centres, and provoke the appearance of actual hallucinations of the senses and of movements.

**An Otolological Basin.**—Alderton (*Ann. of Ophth. and Otol.*, iv, 4) has devised an aid to cleanliness in the treatment of the ear, which consists of an ordinary hard-rubber *papier-maché* or metallic pus basin of any of the common shapes. To this a metallic tube, five inches long by an inch in diameter, is cemented or riveted perpendicularly to the middle of the bottom of the basin, after cutting out a button an inch in diameter at the point of application. In use a soft-rubber tube an inch in diameter is drawn over the free extremity of the tube in such manner as to form a continuation of it. This rubber tube may pass through a screw-eye let into the edge of the operating table, and so down into any large receptacle on the floor. The patient holds the basin by the metallic tube; the basin is placed in position, and all fluids, during syringing or dressing, pass uninterruptedly down the tubes into the receptacle under the table, while the gauze and other solid dressings remain in the basin and gradually drain dry.

**Systematic Acoustic Gymnastics in the Treatment of Deaf-mutism and Cases of Nerve Deafness in General.** **The System of Urbantschitsch.**—Barnes (*Ann. of Ophth. and Otol.*, iv, 3) describes Urbantschitsch's method as virtually a vocal training of the auditory nerve whereby a gradual irritability of the nerve for sound waves is set up. Instruction begins with the vowels. Two are selected, usually A and O, as they are the most readily understood. The one to be used is first indicated to the patient by the lips, and then in a loud and prolonged voice is spoken directly into the ear. The patient in the beginning may not hear a sound, but persistent and continued effort will, even sometimes at the first sitting, enable him to arrive at a distinction. As soon as this distinction of the vowels is mastered, consonants are added to them, gradually increasing to long syllables, then to words, and finally to complete sentences. As progress is made, the distance from the ear at which the exercise is conducted may also be gradually increased, and after a few sittings it is best to dispense with the lip method, making the exercise purely acoustic. While perception of sound is essentially necessary to gaining any progress in a case, *conception* of sound makes the *perception* easier. It is much easier for a deaf-mute to reproduce a sound that conveyed some intelligence to his mind than one that did not. Short, continued practising of from five to ten minutes gives the best results. It should be daily at first, gradually increasing in frequency rather than lengthening the duration. The pitch and intensity of the voice suited to the case must be determined, and great care taken that the irritability of the nerve be not exhausted. Should this occur, all practice must be stopped for a few days.

The results to be obtained depend largely upon the systematic manner in which the exercise is conducted, but there must be, in the first place, an existing ability to hear, and an ability for development of the hearing. The same method is applicable to cases of acquired deafness resulting from scarlet fever, typhoid fever, cerebro-spinal meningitis, diphtheria, measles, etc.; for it is of utility not alone for the nerve, but also for the long-standing obstructive sequelæ.

**An Unusual Case of Aural Deformity.**—Holinger (*Ann. of Ophth. and Otol.*, iv, 2) reports an interesting case occurring in a girl aged fourteen years. The whole head was asymmetric. The left facial side was inferior to the right in all dimensions, and showed a marked depression which extended from the ramus of the lower jaw to the linea temporalis, and from the zygoma to the occipital region. The lobule of the ear was smaller than normal, but it seemed as if the superior point of insertion of the concha had been drawn downward and forward toward the external angle of the mouth. The line of insertion formed three quarters of a circle, and the free margin of the concha was bent upon itself forward and at an acute angle. The tragus was absent. In operating for the correction of the deformity half the concha was dissected from its broad and flat attachment to the cheek and sewed to an incision in the vertical prolongation of the still adherent part. The force necessary to bring together by stitches the original insertion, two centimetres broad, caused the incision to gape sufficiently, and enabled us to avoid sacrificing any skin at the posterior incision, although the wound in the cartilage on the posterior surface was a centimetre and a half broad. At the same time the strong tendency of the concha to dip forward could be combated in a fashion similar to that adopted in operations on fan-ears. A slight ectropion was produced which soon disappeared.

**Micro-organisms in the Healthy Nose.**—Thomson and Hewlett (*Arch. of Otol.*, xiv, 3 and 4) summarize the results of their observations as follows:

1. In all bacterioscopic investigations of the nasal fosse, in all researches as to the action of nasal mucus, etc., a clear distinction must be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin, and is not part of the nose cavity proper, but only leads to it.

2. Contamination with the lining of the vestibule is difficult to avoid, even when this source of error has been realized.

3. In the dust and crusts of mucus and *débris* deposited among the vibrissæ of healthy subjects micro-organisms are never absent, and are usually abundant.

4. On the Schneiderian membrane the reverse is the case. Under normal conditions micro-organisms are never plentiful here, are rarely even numerous, and in more than eighty per cent. of cases no organisms whatever are found, and the mucus is completely sterile.

5. The occurrence of pathogenic organisms must be so infrequent that their presence on the Schneiderian membrane can only be regarded as quite exceptional.

**Binaural Hearing.**—Bloch (*Arch. of Otol.*, xxiv, 2) sums up the characteristics of binaural hearing as follows:

1. With binaural conduction of a sound there is an alternating increase in the auditory impression.

2. This increase grows less as the two auditory impressions become more dissimilar.

3. It depends probably not only on the addition of the bilateral acoustic excitation and the transference of the perception to the interior of the head, but also on an actual central increase of excitability.

4. With the binaural conduction of a tone or a noise into the auditory canal, or in its neighborhood, the sound is heard in the head.

5. The subjective auditory field lies on the side of the stronger perception. By changing this, the location of the field may be altered at will.



6. Its location in the median plane, and the perception of the character of the tone, depend on the relations between the phases of the sound waves on each side.

7. The most important function of binaural hearing is the recognition of the direction of sound.

8. This is more perfect in the horizontal and frontal planes than in the sagittal.

9. In the two former it depends chiefly upon the comparison of the intensity of the sound perception on both sides, and in less measure on the influence of the auricle on the conduction of the sound waves to the canals.

10. In the sagittal plane the last factor alone comes into play.

11. Different characteristics of the sound, such as its duration, intensity, and timbre, influence our judgment of the direction, particularly in the sagittal plane, corresponding to the more frequent excitation of the auditory nerves, and the repeated experiences of daily life.

12. In the estimation of the distance of a sound, we judge less from the total intensity than from the intensity of the component single sounds.

13. The judgment of the direction of sound with one ear alone is very poor.

14. It does not seem necessary, in judging of the direction of sound, to take into account any other than the physiological and psychological factors here discussed.

**Some Tumors of the Ear.**—Scheibe (*Arch. of Otol.*, xxiv, 3 and 4) reports three interesting varieties of aural tumors:

The first was a fibroma, at the entrance of the ear canal, occurring in a man aged fifty-six years, which had been growing for six years. It was club-shaped, rather hard, the size of a small walnut, covered by skin partially supplied with hair and glands. It was removed by the galvano-cautery snare. It proved to be a fibroma of the subepithelial connective tissue, with proliferation of sebaceous glands. There had been no relapse in seven years.

The second was a pedunculated osteosarcoma of the ear canal in a young lad aged seventeen years. There had been impairment of hearing for a week, and an offensive discharge for four days. The osseous meatus was filled with a hard tumor with irregular excoriated surface, connected with the bone at the anterior wall. After the removal of the thick fibrinous outer coat the growth appeared as a deep-red, shining, lobulated tumor, oval in shape, as large as a bean, and was attached by a small pedicle to the supero-anterior wall of the meatus. It was removed with a snare. The decalcified tumor was divided by a longitudinal incision passing through the pedicle. One half was cut into longitudinal sections and the other into vertical sections. It proved to be a combination tumor, the bulk being sarcoma tissue pervaded with osseous trabeculae extending from the pedicle to its centre. The sarcoma portion was rich in spindle-shaped cells with some giant cells. The pedicle of the tumor consisted of well-developed bone, from which many spiculae radiated through the tumor. A thick epidermic stratum covered the tumor.

The third variety of tumor consisted of three cases of hairy granulation tumor in the middle ear. The first case occurred in a man, aged forty-one years, who had suffered from left otorrhea from childhood. A tumor had been removed five times from this ear, the

last time three years before, since which the ear had been dry. A pedunculated, soft, uneven tumor was found filling the bottom of the meatus, and the pedicle was in the antrum canal. When removed with the snare its surface was found studded with stout hairs. The drum membrane and ossicles were absent. A part of the posterior wall of the bony meatus was destroyed. The whole cavity of the drum was lined with horny epidermis. Three years later the tumor recurred, and on being removed was found covered with hairs, which were growing from hair follicles.

The third case occurred in a man, aged twenty-four years, who had had an intermittent discharge from one ear for fourteen years. The drum membrane and malleus were absent. The tympanic cavity was lined by thick white epidermis. A large mass of cholesteatoma was removed, and a pale red polypus was snared off. This, on examination, proved to be a mass of connective tissue, sebaceous glands, hair follicles, and glands.

In both these patients the tumor grew on the soil of a cholesteatoma, but this does not explain the development of the hairs.

## Miscellany.

**Thyroid Extract in the Treatment of Lupus.**—In the *British Medical Journal* for October 24th Dr. J. Barclay calls attention to the results obtained by him in the treatment of lupus by thyroid extract. The slight extent of his experience with thyroid in the treatment of lupus does not, he thinks, entitle him to be dogmatic as to results, but the progress of the cases has been watched with considerable care during the whole course of the treatment, in order to render any conclusions arrived at as trustworthy as possible. Dr. Barclay relates the histories of four cases, of which the following are examples:

The first patient was an unmarried woman, aged twenty-five years, who had been the subject of lupus of the nose and both cheeks since 1891. Scraping had been thoroughly done in 1892, and, on the disease returning, scraping and Paquelin's cautery were employed in 1893. Relapse soon followed, and in January, 1895, thyroid tablets, one three times a day, were given. In three weeks local reaction became apparent, very markedly resembling that following Koch's tuberculin in this disease. First there appeared a bright-red ring surrounding each nodule, with swelling of the nodule and tenderness, indicating acute inflammation. The dose was now increased to six tablets daily, and after a couple of weeks nine were taken. These were well borne, nothing worse than emaciation being observed during the months of the treatment. This condition of inflammation persisted for several weeks, at the end of which the nodules began to soften and break down. Complete sloughing followed, and a deep ulcer took the place of the nodules. At this stage all the surrounding redness had disappeared. After all the nodules had pursued this course of inflammation and consequent necrosis, the parts previously affected presented a series of clean and healthy looking sores, from which a thin discharge exuded. Healing was slow. Yet by merely keeping the parts clean by washing with soap and water, and by covering with vaseline to prevent the formation



of scabs, healing was gradually accomplished, and there remained only a white, flat, and sound scar. No other external application than vaseline was employed. Dr. Barclay regrets that the discharge from the ulcers was not examined for bacilli, and that no note of the temperature during the stage of inflammation of the nodules was kept. In September, 1895, it was noted that the face was nearly well, and in January, 1896, quite well. At this date—July 16, 1896—the face remains quite well.

In another case the patient was a married woman, aged thirty-five years. She had been the subject of extensive lupus of the face since 1889. The disease included a large patch on the right cheek, one on the upper lip, and the whole of the nose and interior of the nostrils. Various attempts at destruction of the malady had been made before the author saw her, which was in April, 1891. At that time a thorough scraping was done, but the disease returned more actively than before. Cod-liver oil was taken from that time to the end of 1892, but without apparent benefit. In February, 1893, scraping and Paquelin's cautery were followed by temporary benefit, but after a few months matters were as bad as before. In January, 1895, thyroid tabloids were ordered, but were taken very irregularly, and sometimes ceased to be taken altogether for weeks at a time during all that year. On all the occasions on which the medicine had been continuously taken for three or four weeks, the usual local reaction, which is described as having occurred in the preceding case, was observed—namely, redness, swelling, and pain; but immediately on leaving it off these local signs gradually died away, and no necrosis or sloughing of the nodules followed. However, in January of this year the patient took the tabloids in earnest, first three daily, after a fortnight six, and after a month nine a day. The result at this time is that the whole of the nodules on the nose have sloughed away, and the deep ulcers left have become filled up, and cicatrization is going on steadily. The patch on the right cheek, which had somewhat healed over before the thyroid treatment was begun, has become inflamed, but no necrosis has followed. The nodules on the upper lip, which all along were larger than those on the nose, seem to have been more slowly affected by the thyroid than the others, and at this time all have not softened down *pari passu* with their neighbors. She continues to take the medicine steadily. The only external application employed is vaseline.

The whole process of the local reaction following thyroid treatment, says Dr. Barclay, is very similar to that which we were accustomed to observe after tuberculin injection, with this difference, that the thyroid reaction is less violent, both locally and constitutionally, and the good effects will, he trusts, be more complete and more permanent. Mr. Jonathan Hutchinson in February, 1891, speaking of the treatment of lupus by Koch's method, remarked: "No one ventures to report an instance of complete cure. Of the cases which have been shown to me as the most satisfactory, I am bound to say that in every one there has been evidence at some part of the edge of the remains of lupus tissue ready, I do not doubt, to start into fresh growth on the slightest provocation." Time and experience, continues the author, have shown the truth of this statement. Judging from these two cases there is in them no such suspicious appearance up to the present time. As to the duration of the treatment necessary to insure per-

manent cure, even with full doses given regularly and continuously, it would seem as if one could not trust to a complete cure being effected in a shorter time than a year. The dose of the medicine in lupus, as in psoriasis, requires to be larger than what is found sufficient for myxodema. And, as regards the age of the patient, the older he or she may be, the more cautious ought we to be with the quantity prescribed. Dr. Barclay states that he has observed no serious effect in youthful patients, but in those who have passed fifty years of age some irregularity of the heart's action has been noticed, which is controlled easily, however, by reducing the dose and giving some alcoholic stimulant. Some interesting questions, he thinks, might arise in the course of this treatment. For instance, he asks, would it not be prudent during the necrotic stage of the nodules periodically to examine the discharge for bacilli? Valuable information as to the progress of the treatment might thereby be obtained. Then one might ask what would be the effect of a similar treatment in tuberculous glands in the various situations in which these are found? Would it be analogous to what he has described in lupus? And, lastly, what would be the probable effect of this treatment in tubercle of the lungs?

#### Antipyrine in the Treatment of Whooping-cough.—

In the *Gazette hebdomadaire de médecine et de chirurgie* for October 22d M. Le Goff calls attention to the results obtained by many authors with this treatment. Dubousquet-Laborde employed it in three hundred cases, in which a hundred and ninety-six patients were cured or benefited. The average duration of the treatment was thirty-five days. The amounts given daily varied from five to fifteen grains for children up to three years of age, and from thirty to sixty grains for older children and adults. The same results were observed by Geffrier, De la Jarrige, Jasiewicz, and others. Richardière also employed antipyrine with satisfactory results. It diminished the number of coughing attacks one third in the majority of cases, although it never suppressed them completely. In two cases in which the patients vomited profusely it had no effect on the vomiting. He concluded, however, that antipyrine exerted a positive action, but that it was not superior to that of belladonna.

Whenever the renal functions are not impaired, says the author, M. Lemoine prefers this medication to any other, as its action is surer and more rapid. To small children he gives from four to eight grains in enemata every twenty-four hours, and to children from three to six years of age and older, twenty-four grains in six doses.

Von Genser enumerated the results obtained by him in two hundred cases, in which he employed two methods of treatment: Insufflations of powdered medicaments into the nasal fossæ and antipyrine administered by the stomach. With the first method few results were obtained, and the duration of the treatment was at least forty-three days; in the second the results were more conclusive. Administered in quantities of two grains a day for each year of the child's age, antipyrine always diminished the number of coughing attacks and lessened their violence. Recovery was obtained in twenty-four days, and from this the author concluded that antipyrine shortened the duration of the disease. Many other instances are cited by M. Le Goff to demonstrate the efficacy of this treatment.

In regard to its mode of action, he says, the drug

is essentially a nerveine, and acts as an analgetic and as an antispasmodic. By diminishing the irritability of the superior laryngeal nerve which, by reflex, produces the cough, it arrests the attacks of coughing and prevents serious symptoms which the intensity of the attack may cause. This action on the nervous element of the cough is the least disputed of the effects of antipyrine in whooping-cough, and was observed by M. Le Goff himself in eighteen patients, in seventeen of whom the number of attacks and their intensity diminished considerably, and in nine recovery occurred in less than twenty-five days, thus cutting short the duration of the disease very much.

In the second place, antipyrine is an antiseptic. Brouardel and Loye have shown that it is antizymotic. A five-per-cent. solution hinders the development of microbes and attenuates their virulence; furthermore, its action has been manifested as well in laboratory experiments.

Concerning its action on the catarrhal element of this disease, says the author, Mouvet affirmed that, if it was given in the first stage of the affection, it arrested the catarrh; Soula also observed similar results. M. Le Goff himself administered antipyrine to a patient during the first stage of the disease, and not only the attacks of coughing, but the catarrh disappeared in seven days. In his other patients he remarked that the catarrh disappeared under the influence of this treatment more rapidly than is ordinarily the case after the cessation of the attacks, and on this point he is corroborated by other observers.

M. Le Goff states that the only symptom he has observed to follow the use of antipyrine is albuminuria, which appeared in two cases; it disappeared, however, rapidly after the cessation of the use of the drug and the establishment of a milk diet. Concerning its elimination, he says, many physiological experiments and the majority of clinical observations demonstrate that it is eliminated well in animals and in persons with healthy kidneys; children, particularly, eliminate it easily. It has been said that antipyrine causes various eruptions, but they are not always followed by injurious consequences, and they disappear after the suspension of the drug. Cordes, Taylor, Dubousquet-Laborderie, and others, cite instances to show that it causes nausea, vomiting with epigastric pains, and anorexia. It is not known, says M. Le Goff, whether these symptoms are to be imputed to any impurities in the drug, to an excess of action, or to peculiar individual susceptibilities. M. Dubousquet-Laborderie thinks that the former play a certain part in giving rise to the symptoms observed. However, says M. Le Goff, the benignity of these symptoms is sufficiently assured, and we need not fear to give antipyrine even in large doses. It is prudent, however, to watch the elimination carefully, and before giving the drug to ascertain the condition of the renal filter.

In order to prevent any injurious action on the digestive tract, the drug is given in Vichy water as follows:

R Antipyrine.....	15 grains;
Gooseberry syrup.....	300
Vichy water.....	2.5 ounces.

M. This quantity is to be taken in twenty-four hours, a dessertspoonful after each coughing attack. Besides this, M. Le Goff recommends the ingestion of milk or bouillon after each dose of the solution, as the antipyrine is thus very well tolerated.

**Influenza in its Connection with Pregnancy and Confinement.**—In the *Journal des praticiens* for October 24th M. Demelin calls attention to the influence of this disease on pregnancy. It was observed, he says, by Valesco de Tarente in the fifteenth century and afterward by Paré, Guillemeau, Mauriceau, Peu, Dionis, Levret, and de la Motte. At the present time certain authors think that abortion is not more frequent from influenza than from any other cause; on the other hand, the disease is distinctly accused of producing premature confinement by Labadie-Legrave, Gottschalk, Queirel, and others. Ruffié concludes that grippé influences pregnancy in nearly the same proportion as cholera, small-pox, typhoid fever, and malarial fever; abortion is produced in forty-one per cent. of the cases and premature confinement in twenty-seven per cent. Séguel, who thought that Ruffié's statistics were overdrawn, nevertheless conceded that *la grippé* was a real cause of abortion.

The cough, the hyperpyrexia, the hæmorrhage from congestion of the endometrium, and the placental apoplexy, the infection properly so called, have been, says M. Demelin, by turns considered as direct agents of uterine evacuation. In a large number of cases pregnancy continues for the normal period, and at the time of confinement the uterine contractions seem generally to be less energetic and occur at longer intervals, which prolongs the duration of the confinement.

Peu, Jacquemier, Cazeaux, and others, have spoken of rupture of the membranes under the influence of the cough. This rupture may occur prematurely, before the beginning of confinement, during the period of dilatation, or at the moment of complete dilatation.

It is especially after confinement that it is important to recognize this disease and to distinguish it from ordinary puerperal infection. Headache, slight chills, fever, collapse, obstruction of the nose, and cough nearly always characterize the disease during this period; the temperature remains normal or is slightly elevated; in light forms of the disease the duration is from five to seven days.

When the attack is more serious, says M. Demelin, at the end of from three to five days of not very pronounced premonitory symptoms, a chill supervenes followed by an elevation of temperature, which rises to 102.6° and 104° F.; then symptoms of an intense bronchitis, of pneumonia, or of broncho-pneumonia appear. Very often at the end of twenty-three days the alarming symptoms disappear, the temperature falls, and the patient seems to be on the way to recovery. This condition, however, is deceptive, and more frequently the fever and the pulmonary symptoms return for some weeks, and it is only gradually that the temperature falls until it reaches the normal. According to Séguel, the temperature occasionally falls after confinement, but only to rise again. Relapses are frequent. Among the complications may be mentioned pleurisy, purulent conjunctivitis, abscess of the vulvo-vaginal gland, phlegmon of the broad ligament, and phlegmasia alba dolens.

There is, says M. Demelin, a tendency to admit that Pfeiffer's bacillus is not easily pyogenic, and that post-grippal suppuration is ordinarily due to the pneumococcus or to the streptococcus. Grippé evidently favors, during confinement, the development of infections which, without this disease, would probably not develop; it also increases the virulence of the microbes.

In the new-born the respiratory troubles of a grippal nature are very rare, according to Fiessinger, Comby,



Gassicourt, Vinay, and others. On the other hand, Amann, Townsend, Ballantyne, Heunig, and Labadie-Lagrave report cases in which the influenza attacked both mother and child. Strassmann gives a description of this disease in the new-born in which he says that the onset occurs on the third, the sixth, or the ninth day. One symptom which he particularly calls attention to is the lowering of the temperature. Runge, on the contrary, has observed pyrexia. There exists coryza with a formation of crusts around the nostrils, hoarseness, and diarrhoea, and respiration is restricted. Emaciation occurs very rapidly. In serious cases the child sinks into a more or less pronounced stupor. The disease lasts for three or four days when it is benign.

According to Comby, says M. Demelin, ocular and auricular complications, and especially pneumonia and broncho-pneumonia, are the most frequent. According to Ruffié, the child may die at the end of three days with tetanic contracture. However, Séguel concludes that grippé rarely attacks the new-born.

When it does present itself in the new-born, is it a question of intra-uterine infection, or a post-partum contagion? It is probable, says M. Demelin, that the two modes of invasion exist.

**The Therapeutic Value of Subcutaneous Injections of Sodium Phosphate.**—The *Province médicale* for October 17th contains an abstract of an article from the *Journal de médecine de Paris* for September 27th in which the writer remarks that a 0.1-per-cent. solution in sterilized water is preferably employed. After the usual antiseptic precautions are taken, the injections are practised in the retrotrochanteric groove. These injections have been employed in tabes dorsalis, hemiplegia, neurasthenia, and progressive myopathic paralysis. In locomotor ataxia the darting pains and the troubles of motility are considerably diminished. Also in other affections marked amelioration is produced. Sometimes this salt has a direct action on the nervous system; the organism seems to experience a functional overactivity, and it produces symptoms of intolerance.

On the whole, says the writer, it may said: 1. That sodium phosphate exerts an action on the organism which is due to the exciting influence which it produces on the central nervous system. 2. That if the injections are carefully administered hypodermically, the solution does not give rise to any local reaction. 3. That the therapeutic value in locomotor ataxia, in neurasthenia, in hemiplegia, and in progressive myopathic paralysis is worthy of consideration. 4. That the hypodermic injections should be carefully watched in order to prevent the appearance of the symptoms of intolerance which are often produced.

**The New York State Association of Railway Surgeons.**—The sixth annual meeting will be held in New York, on Tuesday, November 17th, under the presidency of Dr. C. S. Parkhill, of Hornellsville. The programme includes the following titles: Modern Methods in the Treatment of Fractures, by Dr. R. H. Cowan, of Radford, Virginia; How can we best secure Immobilization in Compound Fractures at or near Articular Processes? by Dr. Z. J. Lusk, of Warsaw; Immobilization and the Treatment of Fractures at the Elbow Joint, by Dr. J. H. Glass, of Utica; Injuries to the Head, by Dr. Roswell Park, of Buffalo; The Relief and Hospital Department, by Dr. Frank H. Caldwell, of Waycross, Georgia; the president's address, by Dr. C. S. Parkhill,

of Hornellsville; Traumatic Neurasthenia, by Dr. J. E. Walker, of Hornellsville; Cases of Apoplexy following Some Time after Accidents, by Dr. William Browning, of Brooklyn; Cranial Injuries, by Dr. W. A. Ward, of Conneaut, Ohio; Distinctive Features of Railway Surgery, by Dr. R. S. Harnden, of Waverly; Granulation Surfaces, by Dr. John Van Duyn, of Syracuse; Chloroform Anesthesia, by Dr. Webb J. Kelly, of Galion, Ohio; Injuries to the Eyeball, by Dr. Samuel Mitchell, of Hornellsville; Acute Infective Thetitis, by Dr. A. Llewellyn Hall, of Fair Haven; and Compound Fracture of the Skull, with Injury to the Brain Substance, with a Report of Cases, by Dr. J. G. Kelly, of Hornellsville.

**Proposed Changes in the Form of Death Certificate in New York.**—President Wilson and Commissioner Fowler, of the health department, have done us the honor to ask for our opinion of certain proposed changes in the death-certificate blank. They are as follows: On the face of the blank, a question is added as to how the deceased had been fed if he was less than a year old, and the division of the causes of death into "chief cause" and "contributing cause," also a statement of the duration of the disease, are dispensed with. Instead of what is now printed on the reverse side of the blank, the following is proposed:

"N.B.—A certificate of death is a document of great importance. More than ten thousand copies of such certificates are issued annually from this office, for use as legal proof of death here and abroad. It is essential, therefore, that the particulars called for shall be given correctly, legibly, and as fully as possible.

#### TO PHYSICIANS.

"1. The attending physician must furnish a certificate within thirty-six hours after death (Sanitary Code, sec. 151).

"2. All physicians practising in New York city (including those in public institutions) must be registered in the bureau of records (Sanitary Code, sec. 5).

"3. If a person dies from criminal violence, or by a casualty, or suddenly while in apparent health, or when unattended by a physician, or in prison, or in any suspicious or unusual manner, the case must be referred to the coroner's office (chap. 410, sect. 1773, laws of 1882).

"4. Certificates will be returned for additional information, which give any of the following diseases, without explanation, as the sole cause of death:

"Abortion, childbirth, gangrene, meningitis, necrosis, pyæmia, abscess, convulsions, gastritis, metritis, peritonitis, septicæmia, cellulitis, erysipelas, hemorrhage, miscarriage, phlebitis, or tetanus. (Any one of these may be the result of an injury, and thus be a subject for investigation by a coroner. If it is not, the certificate should make that fact plain.)

"5. No certificate giving 'heart failure,' 'dropsy,' or other mere symptom as the sole cause of death will be accepted, unless accompanied by a satisfactory written explanation.

#### TO UNDERTAKERS.

"1. No burial permit can be obtained without a proper certificate.

"2. Certificates must be written throughout in black ink.

"3. No certificate will be accepted which is mutilated, illegible, or inaccurate, or any portion of which has been erased, interlined, corrected, or altered, as all such changes impair its value as a public record."

We may say that we approve of these changes entirely.



In addition to these changes in the form of the certificate of death, it is proposed to issue a small pamphlet containing, in as brief and condensed a form as possible, the information indicated by its title, viz.: Legal Duties of Physicians, Midwives, Undertakers, and Cemetery Keepers, and the Regulations of the Health Department relating to the same. Every person interested will be supplied with one of these pamphlets, and, if it is preserved for reference, it is confidently expected that most, if not all, of the causes of misunderstanding between physicians and the health department will be removed.

**The Action of Thyreiodinin in Cachexia Strumipriva.**—At a recent meeting of the Imperial-royal Society of Physicians of Vienna (*Wiener medizinische Blätter*, October 22, 1896) Dr. J. A. Notkin presented a paper on this subject. From early observations of his own he had drawn the inference that the phenomena caused by extirpation of the thyroid gland were divisible into two classes, one being the symptoms of tetany and the other those of myxedema. He thinks it probable that the phenomena of myxedema occur only when there is left some remnant of the thyroid parenchyma capable of performing its functions, also that myxedema is caused by an albuminous principle, thyreoproteid, whereas tetany depends on poisoning with products of metabolism which are not of an albuminous nature. Baumann's thyreiodinin will cure goitre and myxedema, but it has been difficult to assume *a priori* that it would also cure tetany. It appears from data furnished by Frinkel, Koher, Jr., and Gottlieb that besides thyreiodinin (or iodothyrein) the thyroid gland contains other specifically active substances.

The author had undertaken an experimental investigation of the truth of Baumann's contention that thyreiodinin would cure all the results of removal of the thyroid gland. In the first experiment, the entire gland was removed from a dog. Two days later there were fibrillar and occasionally clonic contractions of the muscles of the limbs. On that day and on the following day forty-five and sixty grains of thyreiodinin respectively were given to the animal; nevertheless, the most pronounced cachexia strumipriva was developed. The dog was now almost dead, when, by means of a stomach-tube, forty-five grains of Merck's preparation of dried thyroids were introduced into its stomach. In the evening the convulsions ceased, and on the following day forty-five grains more of the Merck preparation were given. On this day and the next the dog was lively and free from convulsions. Now in the course of two days a hundred and eighty grains of thyreiodinin were given to it, and again fibrillar contractions showed themselves, and there was an attack of tonic and clonic convulsions.

In the second experiment, thyreiodinin also proved incapable of causing the subsidence of the tetanic symptoms; indeed, they became more intense under its employment, and even when injected subcutaneously it failed to affect them.

In the third experiment, the animal was treated with thyreiodinin beforehand. In spite of this and of the large doses employed after the onset of the convulsions, the dog could not be saved from the severest symptoms of the cachexia. The urine of all the three dogs was albuminous.

From these experiments Notkin concludes that thyreiodinin is incapable of overcoming the phenomena of tetany; however, he did not use Baumann's own

preparation, and this may account for the difference between his and Baumann's results.

**Menstruation and Ovulation in Monkeys.**—Mr. Walter Heape has been studying the reproductive functions in certain species of monkeys. Some time ago he published an account of his observations of *Scenopithecus endellus* with reference to menstruation, and more recently, in the *Proceedings of the Royal Society*, No. 361, there has appeared an abstract of his essay on menstruation and ovulation in *Macacus rhesus*. It seems that this monkey has a definite breeding season, but that the season occurs at different times of the year in different parts of India. Mr. Heape mentions congestion of the skin of the abdomen, legs, and tail, swelling and congestion of the nipples and vulva, and flushing of the face as prominent external signs of menstruation. A regular menstrual flow occurs, consisting of a viscid, stringy, opaque white fluid filled with granules and containing also red blood-corpuscles, pieces of uterine tissue, both stroma and epithelium, and also leucocytes.

Mr. Heape has met with only one case in which it could possibly be supposed that ovulation and menstruation occurred simultaneously; this was the only case in which a recently discharged follicle was found in the ovary of a menstruating *Macacus rhesus*. It does not follow, he says, that ovulation in this case was brought about by menstruation; indeed, the absence of any sign of the recent bursting of a follicle in any other of the seventeen cases examined is in itself strong presumptive evidence that the two processes are distinct. This result may be confidently asserted for *Macacus rhesus* during the non-breeding season; at the same time, he adds, it must be remembered that he has not investigated *Macacus rhesus* during the pairing season; at that time, he thinks, ovulation may be more frequent, and may often be coincident with menstruation; but, however that may be, menstruation occurs in *Macacus rhesus* regularly without ovulation taking place, and his former views are confirmed—namely, that ovulation does not necessarily occur during each menstrual period, and that it is not necessarily brought about by menstruation.

He feels warranted in going further than this and asserting that the regular occurrence of menstruation without ovulation, even in the non-breeding season, is sufficient evidence that ovulation is a distinct process, and that it depends upon a law or laws other than the laws which govern menstruation.

Throughout, no trace of a blood clot within the follicle was seen, and therein, he remarks, these ruptured follicles differ from what is usually described as a normal ruptured follicle in the human female. This difference between two animals both of which undergo menstruation he thinks remarkable and worthy of special attention. He has some reason to believe the difference may be due to the presence or absence of the breeding season in monkeys, and to periods in the human female which are in the one case favorable and in the other case not favorable to conception. If this is true, he says, the period of the human female which is unfavorable to conception would be comparable to the non-breeding season of monkeys, and the period favorable to conception with the breeding season of monkeys. He does not maintain that among civilized peoples at the present day there are definite breeding and non-breeding times, but he thinks the comparison is in harmony with the view that at one period of its existence the human species had a special breeding season.

## Original Communications.

### AIDS IN OBSTETRIC TEACHING.\*

By JAMES CLIFTON EDGAR, M. D.

#### INTRODUCTION.

THE underlying principles of obstetrics are based upon certain recognized and well-known laws of anatomy, physiology, and physics, which allow of a wide range of illustration.

Without a question, the best single method for the student to acquire a practical and lasting knowledge

with the main principles of the subject, or his attention is fixed at the time by means of abundant illustration, especially regarding the anatomical and mechanical principles involved, much of his practical experience goes for nothing and is wasted upon him. The shortcomings of the theoretical or didactic obstetric lecture has in the past few years received considerable attention, but most of those who have arraigned the didactic form of instruction in the strongest terms have offered us no substitute other than a general plea for more practical work.

As I stated in the preceding paper, I believe a modified theoretical lecture still has its place in obstetric

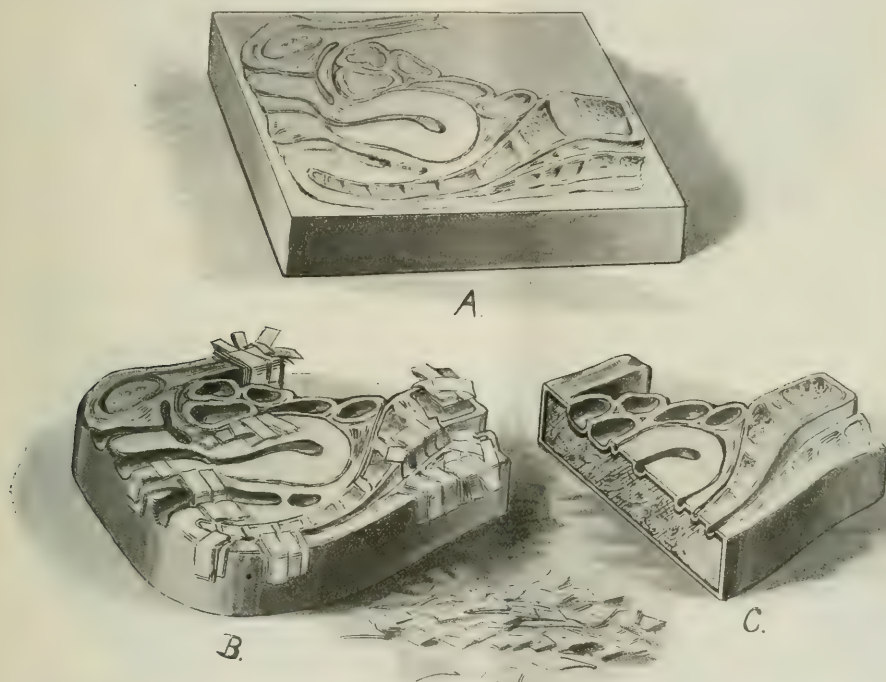


FIG. 9.—A represents the model finished in clay and ready to receive the first coat of paper strips moistened in water; B represents the clay model covered with the first layer and the application of the paper strips dipped in hot carpenter's glue; C shows a transverse section of the completed paper model, with its interior filled with excelsior, and the surface ready for the first coat of paint.

of midwifery is in the personal and actual care of parturient and puerperal women—no student, however, should be allowed this privilege without previous training—and in witnessing various obstetrical procedures in a clinic; but unless his mind has been made familiar

teaching—namely, a didactic lecture that is in part recitation, in part demonstration, and which is freely and abundantly illustrated by various means, some of which I suggest in this paper.

Not a decade ago the memory was the only faculty appealed to and cultivated in the teaching of obstetrics. The student's mind was made the recipient of isolated facts, and required to retain them by brute force as it were. That memory has its place and is an important factor we make no question, but it is the power to ob-

\* Read before the American Gynecological Society at its twenty-first annual meeting, New York, May 26, 1896. [The illustrations are numbered continuously with those in the author's article published in the last number of the *Journal*, to facilitate reference from the one article to the other.—THE EDITOR.]

serve, to grasp, to comprehend, to utilize, to put two and two together and reach a logical conclusion—that is the fundamental principle of practical education.

It has been for the readier and better cultivation of those two faculties of the mind, so essential to the medi-

cal student, of the instructor in the recitation room may be absolutely wasted upon the pupil, whereas were simple and familiar objects and models, which possess the third dimension of space, made use of in conjunction with the description, the subject would immediately appeal to



FIG. 10.



FIG. 11.



FIG. 12.

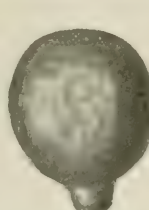


FIG. 13.



FIG. 14.

FIG. 10.—Non-gravid uterus ( $3\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$ ). (Plaster cast from Nature;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 11.—Gravid uterus at end of first month ( $3\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$ ). Marked antero-posterior growth. Pyriform shape preserved. Almost cylindrical. (Plaster cast;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 12.—Gravid uterus at end of second month ( $4\frac{1}{2} \times 3\frac{1}{2} \times 2$ ). Further antero-posterior growth. Pyriform shape still preserved. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 13.—Gravid uterus at end of third month ( $5\frac{1}{2} \times 4\frac{1}{2} \times 3\frac{1}{2}$ ). Pyriform shape gradually disappearing. Shape nearly spherical. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 14.—Gravid uterus at end of fourth month ( $6\frac{1}{2} \times 5\frac{1}{2} \times 4\frac{1}{2}$ ). Marked ovoid. Anterior surface round as a ball; posterior surface flattened. Corpus uteri furnishes principal element of growth. Tubes considerably below the horns. Size and shape influenced by fetus, placenta, liquor amnii, and disease. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

cal student—namely, the reason and perception—that necessity has compelled us to invent these various aids in obstetric teaching presented to the American Gynecological Society to-day. The medical student entering, for example, upon his recitation course in obstetrics in his second college year, will of necessity, both in his

the student, new interest would be awakened, and the facts in question be rendered so plain and simple as not readily to be misunderstood or forgotten.

Diagrams fail because they are unreal, because they are not readily understood, because the anatomical relationships are obscured, because only one surface of the



FIG. 15.



FIG. 16.



FIG. 17.

FIG. 15.—Gravid uterus at end of fifth month ( $7\frac{1}{2} \times 6\frac{1}{2} \times 5\frac{1}{2}$ ). Characteristics same as at end of fourth month. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 16.—Gravid uterus at end of sixth month ( $8\frac{1}{2} \times 6\frac{1}{2} \times 6\frac{1}{2}$ ). Ovoid gradually becoming egg-shaped. Posterior wall flattened by spinal column. Tubes considerably below horns. Size and shape influenced by fetus, placenta, liquor amnii, and disease. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

FIG. 17.—Gravid uterus at end of seventh month ( $10\frac{1}{2} \times 7\frac{1}{2} \times 8\frac{1}{2}$ ). Egg-shaped. Broadest just below fundus. Longitudinal axis predominates. Posterior wall flattened by spinal column. Tubes still farther below horns. Size and shape influenced by fetus, placenta, liquor amnii, and disease. (Paper model;  $\frac{1}{2}$  natural size; from a photograph.)

reading and his class-room work, encounter many new and unfamiliar words, or many which have heretofore been used in quite another sense, and, moreover, to such an extent that he completely fails to grasp the underlying principles that they are intended to convey. Thus, an elaborate description in the text-book or on the part

object is presented. The model succeeds since the reverse obtains. Take, for example, the flattened pelvis of rachitis. The student's interest is immediately awakened and held if such a pelvis be placed in his hands with the request to point out the departures from the normal condition.



Injuries to the pelvic floor become much more real and easily understood when reproduced in casts, with real sutures in place, than by chalk on the blackboard or diagrams in text-books. So, too, the history of the

So in the description of the involution of the puerperium and the relations of the uterus to the surrounding parts, paper reproductions of frozen sections will render us great service in holding the student's attention and



FIG. 18.

FIG. 18.—Gravid uterus at end of eighth month (11" x 8" x 7"). Characteristics same as at end of seventh month. (Paper model;  $\frac{1}{4}$  natural size; from a photograph.)

FIG. 19.—Gravid uterus at end of ninth month (13" x 9" x 8"). Ovoid-shaped. Longitudinal axis predominates. Broad fundus. Anterior surface more convex than heretofore. Posterior depression caused by lumbo-sacral



FIG. 19.

angle. Fundus, rarely regular, depends on posture of fetus. Fetal head causes increased development of anterior part of lower uterine segment. "Sacciform dilatation of lower uterine segment." Size and shape influenced by fetus, placenta, liquor amnii, and disease. (Paper model;  $\frac{1}{4}$  natural size; from a photograph.)

progress of pregnancy becomes simplified with models of the pregnant uterus to illustrate it; the changes in the vaginal portion of the cervix, the supravaginal portion, the internal and external os, as well as the mechanism of dilatation, and the passage of the fetus through the

fixing the facts regarding them. Moreover, subsequent practical work in the lying-in hospital and outdoor maternity service becomes not only more profitable and instructive to the student, but safer for the patients after such ocular demonstrations of familiar obstetric prin-



FIG. 20.—Vertical mesial section of the parturient canal at the end of the stage of dilatation, from a woman who died during labor. (After Karl Braune; weight, one pound and three quarters. Paper model. From a photograph.)

os and ostium vaginæ, become realities never to be forgotten, with a series of flexible models to represent the same, which the student is called upon to examine and demonstrate personally.



FIG. 21.—Same as FIG. 20, with fetal cadaver placed in right anterior position of the vertex. Head well engaged, internal rotation just beginning. (Paper model; from a photograph.)

ciples. Again, we have found some of these aids—as the leather puerperal uterus, paper models of pregnant and puerperal uteri, composition cervixes, and perineal lacerations—of lasting and practical value in the instruc-

tion in obstetrics of nurses still in the training school of a general or maternity hospital. We have repeatedly the aids herein set forth, either in the delivery or lecture room, are rendered much more interesting, profit-



FIG. 22.—Diagrammatic vertical mesial section of parturient canal at beginning of the first stage of labor to illustrate vaginal and supravaginal portions of the cervix. Useful to illustrate posture, presentation, and position of the fetus, use of vaginal tampon, varieties of cervical dilators, placenta prævia, and many other conditions. (Paper model.)

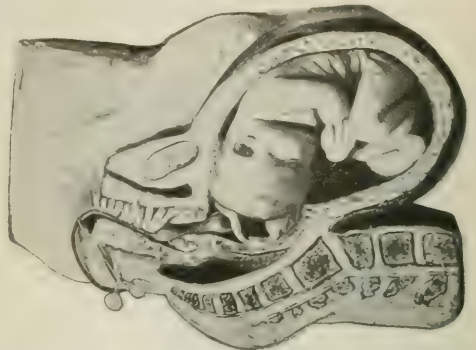


FIG. 23.—Same as Fig. 22: illustrates fetal cadaver in right anterior position of the vertex, central placenta prævia, Barnes's bag, and vaginal tamponade in position. Demonstrates dangers of the Barnes's bag producing premature separation of the placenta beyond the ring of the internal os and the resulting internal or concealed hemorrhage by reason of the distal extremity of the Barnes's bag projecting too far into the cavity of the lower uterine segment. (Paper model: from a photograph.)

observed, by reason of the slight knowledge of anatomy, physiology, and histology which these pupil nurses possess, that demonstrations supplemented by the use of

able, and instructive, than a mere dry recital of facts. This is especially true in hospitals in which practically no maternity service is given to the nurses, or in those

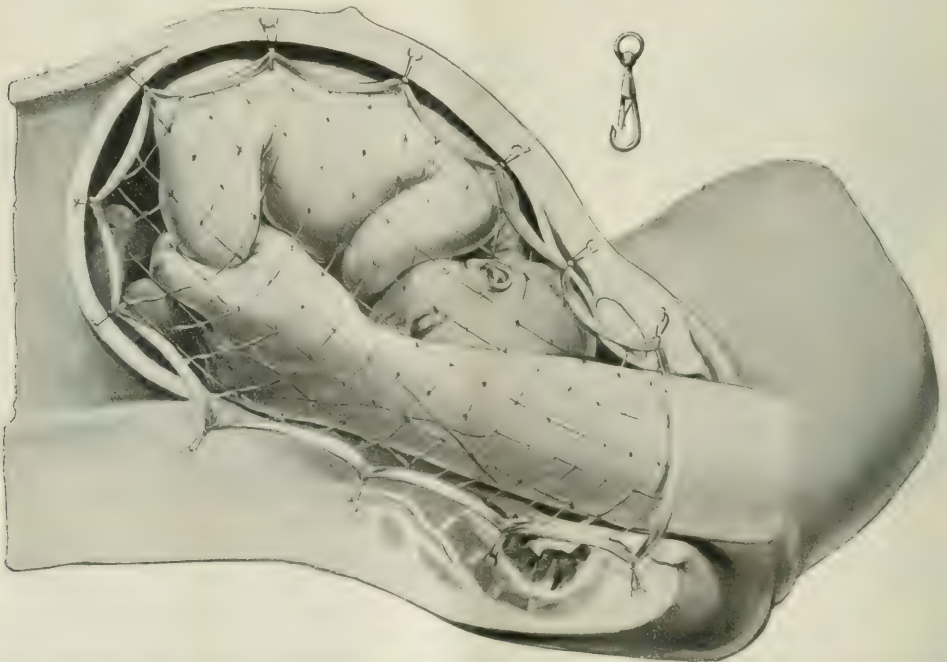


FIG. 24.—Diagrammatic vertical mesial section of parturient canal at end of first stage of labor. The uterine cavity is covered by a netting so as to permit of ocular demonstrations of intra-uterine manipulations. Illustrates internal direct podalic version. (Paper model.)

where the rules of the institution debar the nurse from actually conducting the confinement, or even making a vaginal examination.

Objection is occasionally raised, justly or unjustly, that general obstetric demonstration, apart from the bedside or clinic, carries with it the necessity of handling wet and dried anatomical material—fœtal cadavers, for instance—and, consequently, a suspicion of uncleanness.

Not the least advantage of the greater number of the

specimens of pelvic deformity, and an interchange of such models, together with their clinical history, may accomplish much to raise the standard of obstetric instruction.

#### PROPER PLACE FOR MODELS—CAUTIONS REGARDING THEIR USE.

I desire at the outset emphatically to disclaim any intention of implying or suggesting that the aids in obstetric teaching herein described and illustrated are

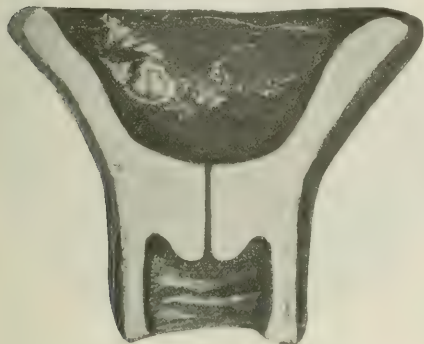


FIG. 25.  
Mechanism of cervical dilatation in primiparae (diagrammatic). (Paper models: from a photograph.)

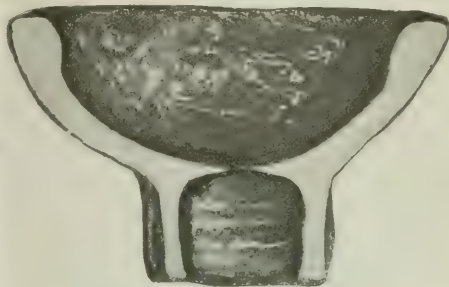


FIG. 26.

aids in obstetric teaching herein described is to be found in the fact that by reason of their composition they may be made and kept obstetrically clean—no small advantage, since we often desire to use the same at the bedside or in the obstetric clinic.

in any sense to replace practical bedside instruction. These aids I offer as auxiliaries, as adjuncts for more instructive and interesting obstetric recitations, demonstrations, theoretical lectures, clinics, examinations of pregnancy, and ward instruction in maternity hospitals.

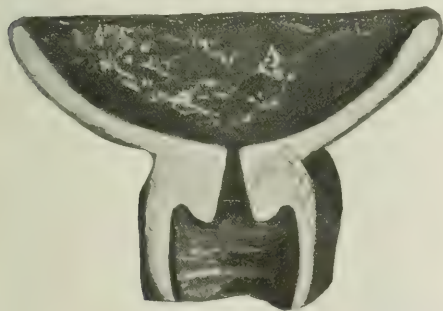


FIG. 27.  
Mechanism of cervical dilatation in multiparae (diagrammatic). (Paper models: from a photograph.)



FIG. 28.

Much that I present in these pages is suggestive and rudimentary in character; much, we feel, can and will be improved upon as time and opportunity offer. For example, I beg leave to suggest that plaster molds be taken of specimens of pregnant uteri of known months of gestation, so that from these subsequently any desired number of *papier-mâché* models may be reproduced for exchange among museums and obstetric teachers. The same plan may, I believe, be pursued in the case of

I can confidently assert, as the result of several years' experience in the use of such aids, that they throw new light upon many physiological and mechanical problems of midwifery, and that they moreover lend new interest to many obstetric subjects, which, by reason of their obscurity and dryness, have in the past proved more than stumbling blocks to students, and, I may truthfully add, to practitioners as well.

It can not be too strongly insisted upon that great



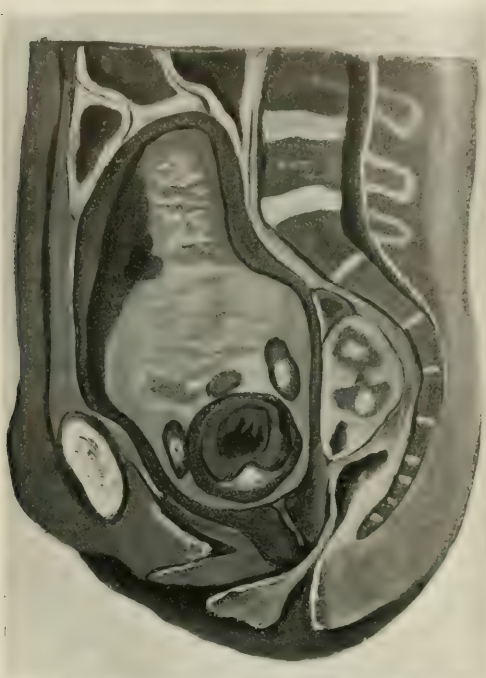


FIG. 29.—Vertical mesial section of the pregnant uterus at the beginning of the fifth month of gestation. (Paper model; from a photograph.)

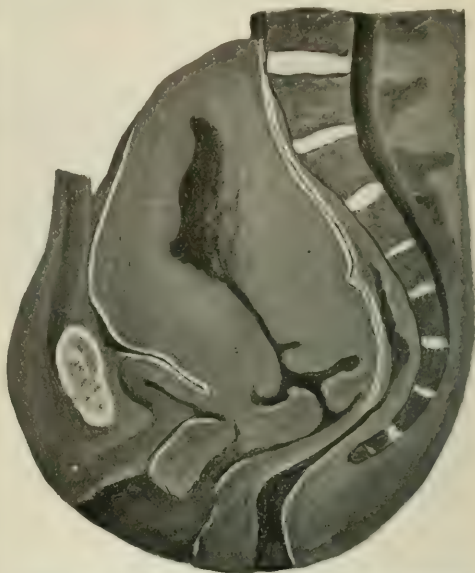


FIG. 30.—Vertical mesial section of puerperal uterus five minutes after delivery. Patient died, heart disease. (After Webster; paper model; from a photograph.)



FIG. 31.—Vertical mesial section of puerperal uterus second day of puerperium. Patient died of eclampsia thirty-six hours after labor. (After Webster; paper model; from a photograph.)

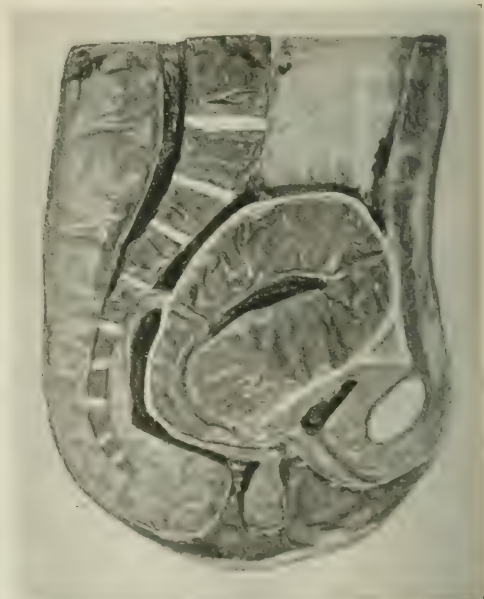


FIG. 32.—Vertical mesial section of puerperal uterus three days after labor. Patient died of acute yellow atrophy. Nearly full term. (After Webster; paper model; from a photograph.)

care must be employed in the selection and use of models as aids in obstetric teaching. Their proper place must be constantly kept before us, and where reproductions from Nature in paper, plaster, composition, or rubber are employed, we have found it safer and generally more satisfactory to produce the natural size of the object, as by enlarging, the subject may become merely grotesque, or even convey a false impression. A wrong impression, moreover, readily acquired, is often less easily corrected in this connection.

If proper care is taken in the selection and preparation of models, no false or exaggerated impression will be conveyed, and the production of models in three dimensions of space, at which we always aim, secures for us a means of ocular demonstration and illustration, which diagrams and charts, be they ever so beautifully executed, or even blackboard illustration with an abundant supply of colored chalk, can never equal. Diagrams are unsatisfactory; they soon become tiresome to the student, and they may be misleading because of the loss of the third dimension of space.

The attempt on the part of the student to acquire a correct and clear idea of certain fundamental obstetric principles from a study of a

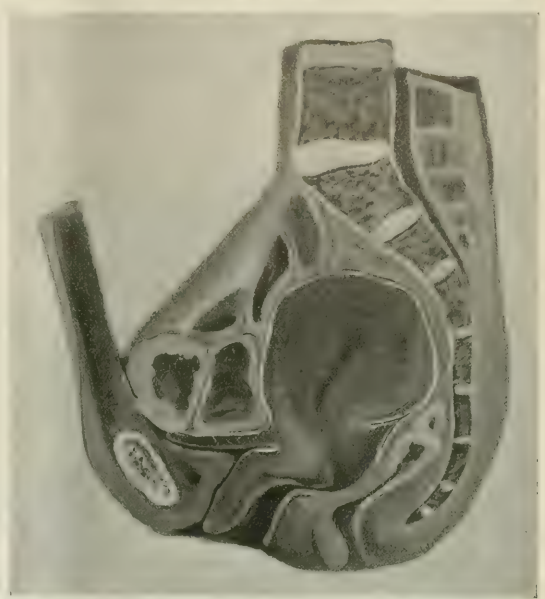


FIG. 34.—Vertical mesial section of puerperal uterus fifteen days after labor. Patient died of heart disease. (After Webster; paper model; from a photograph.)



FIG. 35.



FIG. 36.



FIG. 37.

FIG. 35.—Complete rupture of the uterus involving left lateral and posterior walls and extending from the contraction ring almost to the external os, which latter is intact. Also complete rupture of posterior vaginal wall just below external ring, opening into Douglas's pouch. (After a specimen in the Museum of the Munich Frauenklinik; paper model; from a photograph.)

FIG. 36.—Complete rupture of the left posterior wall of the uterus, extending from the contraction ring downward and inward across the lower uterine segment, through the external os, and some distance down the posterior

vaginal wall. This illustrates a particularly dangerous form of rupture of the genital tract, because of the possibility of direct infection of the peritoneal cavity by the vaginal secretions. (Paper model; from a photograph.)

FIG. 37.—Transverse rupture of the uterus through the lower uterine segment at a point halfway between the contraction ring and the external os. Cancer of the cervix. Vertical mesial section. (Paper model; from a photograph.)

series of illustrations in his text-book or in the lecture room is very apt to result in a condition of bewilderment on his part, which could readily have been avoided by the free use of a few simple models. With such models, recitations and demonstrations to classes divided into easily handled sections can be made to

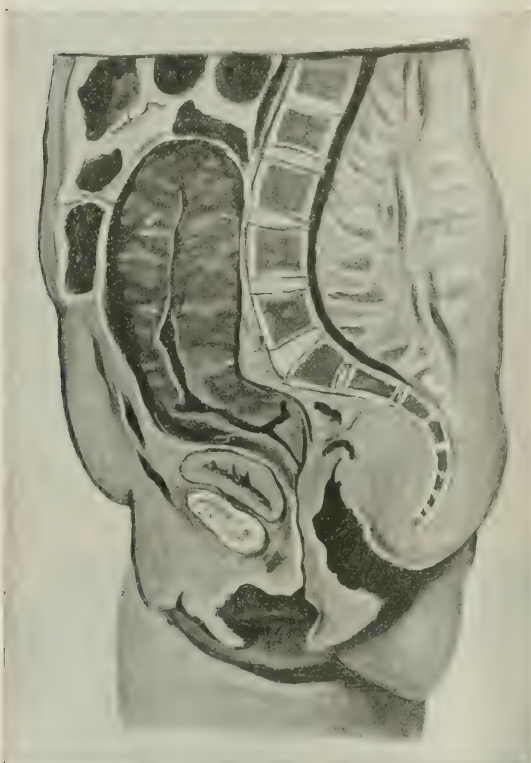


FIG. 34. Vertical mesial-section of pariparous uterus half horn after labor. Contracted pelvis. (After Stratz; papier-mâché; from a photograph.)

result in much practical gain to the student, who has up to this point obtained his knowledge of obstetrics from text-books merely.

#### VARIOUS KINDS OF AIDS.

For purposes of convenience we shall enumerate and describe the several kinds of aids to obstetric teaching included in this paper under the following headings:

##### I. Plaster models.

##### II. Paper reproductions of clay models and plaster casts.

##### III. Composition models.

##### IV. Miscellaneous models and aids.

##### V. Electro-plated casts and models.

#### I. Plaster Models.

Experience has taught us that plaster models *per se* have a very limited field in this direction. Unless the subjects be small and compact, the tendency of the plaster to break, and the excessive weight in the case of the large ones, are decided objections.

Plaster, however, will answer very well for the smaller uteri of the early months, and has been of service to us in securing first impressions of lacerations, pregnant uteri, external genitals, etc., which are subsequently reproduced in paper, composition, rubber, or rendered serviceable and durable by electro-plating with copper, as described hereafter.

#### II. Paper Reproductions of Clay and Plaster Models.

After experimenting with various kinds of papier-mâché, papier-mâché compositions, and modified plaster, we have found the method proposed by Dr. W. G. Thompson\* as best suited for our purpose, because of the lightness, durability, and cheapness of the models made by this process.

In addition to the plaster model, all that we require is an abundant supply of old newspapers, some carpenter's glue, shellac, or a good varnish, and some ready-mixed paints. The clay model or plaster-cast model having been made (see Fig. 9, A), it is first covered on one side with a single layer of small pieces of newspaper (two by four) moistened in cold water (see Fig. 9, B). Every portion of the model or cast is thus covered with a single layer, and rapidly laid upon this layer successive layers of paper dipped in hot glue are added. By means of a flat brush time is saved by painting the glue over the surface and rapidly laying the strips of paper upon it. Special care is needed with the last layer of strips only, in order to secure a smooth surface (see Fig. 9, C). The number of layers and subsequent thickness of the wall should depend upon the character and size of the model. In large models wire gauze, strips of cheese cloth, cardboard, and even thin slabs of pine, may with advantage be incorporated with the paper and glue to add stability. The casing is now allowed to dry thoroughly upon the clay or plaster mold, and is then removed either entire or in two or more sections when the former can not be done (see Fig. 9, C).

If the model represents, for instance, a sagittal section, the interior is now carefully stuffed with loose newspaper or excelsior, and a back added by means of larger

\* The Use of Automatic and other Models in teaching Physiology. *Researches of the Loomis Laboratory*, vol. ii, 1892.



pieces of newspaper, strengthened with cheesecloth, glued in the same manner as the above (see Fig. 9, C). When this has thoroughly dried, a couple of thick coats of paint are applied, to represent the object, and the whole shellacked or varnished. For accuracy in the reproduction of frozen sections (see Figs. 20, 29, 30, 31, 32, 33, and 34), diagrams of sagittal sections (see Figs. 22, 23, 24, 25, 26, 27, and 28), pathological specimens (see Figs. 35, 36, and 37), we have photographed the cuts or rephotographed the photographs, then with an enlarging lantern thrown the outline of the figure upon a sheet of the thinnest tissue paper until the desired size was obtained, and outlined the object with a heavy pencil. Then, placing the paper upon the smooth layer of clay, the modeling is done directly through the paper, the moisture of the clay finally absorbing the tissue paper. Thus, absolute accuracy of detail and relationship can be obtained. The reproductions of Webster's frozen sections (Fig. 20) were made in this manner.

"When finished, the model becomes as hard as board and it possesses great advantage over *papier-maché*, which is more expensive and usually brittle, unless subjected to great pressure.

"This new composition is smooth and very hard, watertight (for cold water), it never warps, breaks, or cracks, and when painted it is difficult to believe that it has been made of such cheap material."

An almost endless variety of anatomical and physiological obstetrical models may be thus secured.

Transverse and sagittal sections are reproduced, as shown above. Where oval or round objects, as pregnant uteri or tumors, are to be reproduced, the entire specimen is covered with the paper as above described, allowed to dry, then cut in halves, the clay or plaster allowed to drop out, and the two shells stuffed with excelsior and glued together with several layers of paper strips overlapping at the seam.

1. Size and shape of the uterus during the successive months of gestation.

These paper models here illustrated are, with the exception of the normal uterus, not taken from Nature, but are founded upon the collective descriptions and average measurements given by Webster, Hart and Barbour, Ribemont-Dessaigners, Farr and Tanner.

Should opportunity offer, more valuable and precise models should undoubtedly be produced by making, immediately after death, plaster casts of gravid uteri, and then subsequently paper reproductions of the same. We would offer here as a suggestion, as we do in another place, that casts of such uteri from the cadaver be made which can subsequently be reproduced in paper and exchanged among obstetric teachers and museums. Many are the uses to which such paper uteri may be put: The height of the fundus in the several months in and out of the pelvis; the changes in the shape of the fundus and lower uterine segment, and their influence upon the attitude, presentation, and posi-

tion of the foetus; placental insertion; physiology and pathology of pregnancy and labor; and many other conditions that will constantly suggest themselves, so that such models will be in almost constant use during a course of obstetric teaching.

2. Vertical mesial sections of uteri at term; mechanism of cervical dilatation.

Fig. 20 is a reproduction in paper of Braune's frozen section of the parturient uterus at the end of the first stage, and Fig. 21 is the same, with a foetal cadaver introduced to illustrate presentation and position.

Fig. 22 is a diagrammatic representation of a vertical mesial section of a uterus at the beginning of the first stage of labor, before the disappearance of the supravaginal portion of the cervix. The uses to which these two models can be put are almost endless, and students in a short time can be brought to appreciate obstetric conditions and situations which hours of explanation formerly were required to elucidate.

For example, the model of Fig. 20 can easily be made to demonstrate the curve of the parturient canal, normal and abnormal attitude, presentation and position of the foetus, displacement of the small parts, and so on.

So the diagrammatic model of the uterus (Fig. 22), with its cervical canal dilated to the size of one finger, has proved of value in exhibiting various forms of cervical dilators, as Tarnier's Barnes's, Champetier de Ribes's, and others, and the advantages and the disadvantages of each; the varieties of placenta prævia; the uses and action of the vaginal tampon; and many other conditions that will suggest themselves to the instructor.

Fig. 24 also represents a diagrammatic vertical mesial section of the uterus, its open side fitted with netting in order to retain the foetal cadaver or puppet during demonstrations of the intra-uterine manipulations accompanying different varieties of version, reposition of prolapsed small parts, correction of malpositions and postures.

The models representing cervical dilatation in primiparæ and multiparæ, in Figs. 25 to 28, will, to a more limited extent, be found useful.

3. Reproductions of frozen sections of gravid and puerperal uteri.

It has been with some hesitation that I have attempted the reproduction of the frozen sections of Webster and Stratz for fear that something of the original would be lost or distorted in the paper model. We have therefore confined our work to the grosser ones, as the puerperal uteri of Webster. In only one instance have I attempted to produce a model of the gravid uterus and its contained ovum (Fig. 29), and the result was not altogether satisfactory. For such illustrations quite as much can, we believe, be accomplished by diagram.

The series of models representing involution, position and relationships of the puerperal uteri, after Webster's frozen sections, we have found of marked aid in

demonstrating many conditions associated not only with the physiology, but also the pathology of the perium\* (Figs. 30 to 34).

#### 4. Rupture of the uterus and vagina during labor.

These models were made with a view to illustrating the most frequent site of uterine rupture, the relation of the rupture to the contraction ring and external os, and the greater danger of infection when the tear involves the vagina as well as the uterus.

(To be continued.)

## A CASE OF CONGENITAL HYPERTROPHY AND STENOSIS OF THE PYLORUS.

By F. SCHWYZER, M.D.,

PATHOLOGIST TO THE GERMAN HOSPITAL, NEW YORK.

IN April, 1894, I had the opportunity to perform an autopsy on a girl, three months old, who had died with the symptoms of chronic gastritis. The small body was atrophic to a high degree; abdomen not distended. Lungs, heart, spleen, kidneys, and genital organs showed nothing worthy of mention. The intestines were, for the most part, empty and anæmic. The large intestine displayed, both in the transverse colon and in the sigmoid flexure, a constricted portion about one and a half to two centimetres in length. The wall in the intestine at these places was thin, the diameter of its lumen only two thirds that of the other parts of the large intestine. Except for the atrophic appearance of the mucous membrane and the muscularis, nothing of interest could be demonstrated at these stenosed parts of the gut, not even microscopically.

The stomach measured, from the fundus to the pylorus along the greater curvature, twelve centimetres; from the small curvature to the larger, at its largest diameter, five and a half to six centimetres. The cardiac end exhibited no changes. In place of the pylorus, however, a round tumor presented itself, 2.4 centimetres in length and 2.1 centimetres in thickness. The stomach contained a scanty amount of mucous fluid and some curdled milk. The thickness of the stomach wall averaged three to four millimetres. Its mucous membrane was slightly corrugated, its folds radiating toward the pylorus. As regards the tumor in the pyloric region, this felt rather hard and constricted the lumen of the pylorus to such an extent as to allow a probe, two millimetres in diameter, barely to pass. The mucous membrane was quite thick, two to two and a half millimetres, and folded longitudinally; at no place was it ulcerated or otherwise changed. Submucosa and muscularis presented such a coarsely fibrous, unyielding wall of five to six millimetres' thickness that the diagnosis of scirrhus pylori suggested itself. But, inasmuch as the mucous membrane was not ulcerated and no cellular elements could be scraped off from the cut surface of the pyloric wall,

and inasmuch as neither the liver nor any other organ exhibited metastatic deposits, the final diagnosis was reserved for the microscope.

The liver showed centrally in the acini atrophic changes, fatty infiltration peripherally. Pancreas and suprarenal capsules were unchanged.

Accordingly, the anatomical diagnosis was: Stenosis of the pylorus, atrophic changes in certain parts of the intestine, and a very pronounced general atrophy.

The microscopical examination of the pylorus shows a somewhat thickened, otherwise normal mucous membrane. Submucosa and muscularis mucosæ together formed a coarsely fibrous texture with many smooth muscle fibres. This tissue, on account of its sclerotic character, stained with some difficulty. Epithelioid cells could not be found in this tissue, nor did the epithelium of the mucous membrane in any place extend into the deeper layers of the mucosa. Transverse and longitudinal sections of the pyloric tumor were made and stained with the usual method. On examination of these sections it was found that the outer layer of the muscularis was composed of longitudinal, smooth muscle, whereas the remainder of the muscularis was made up of circular muscle fibres. The former was one to one millimetre and a half in thickness, the latter three and a half to four millimetres. The outer layer was of a continuous, uniform make-up, and consisted of smooth muscle fibres. The inner layer, on the contrary, exhibited muscle fibres aggregated in large, ringlike bundles, interspersed by smooth strips of sparse connective tissue containing blood-vessels. The peritoneal covering was slightly thickened, otherwise normal. There was, consequently, no other possible diagnosis except that of simple hypertrophy of the pylorus, and under this diagnosis I presented this anatomical preparation at one of the scientific meetings of German physicians taking place at Dr. A. Jacobi's.\*

Sections were also made of both atrophied and stenosed places in the colon. No microscopical abnormalities were discovered, with the only exception that all the three layers of the intestinal wall were thinner than the remainder of the colon. No inflammatory changes of any kind could be detected.

The symptoms which the child had shown during life were, in short, as follows: The child was well developed at birth, weighed eight pounds and a half, and during the first two weeks she thrived very well on mother's milk. Then she began to vomit occasionally. She cried frequently after feeding, and suffered from repeated attacks of slight diarrhoea. The stools were, at times, somewhat greenish in color, but never showed any evidence of serious intestinal catarrh. The condition of the patient during the sixth and seventh weeks was improved by washing out the stomach, and the improvement was such as to enable it to again partake of food for a day, and this apparently without any disturbance. But soon the vomiting recurred, so that finally the stomach tolerated no food at all, even when given in teaspoonful quantities. Washing out the stomach brought up some mucus: the reaction of the gastric juice was acid, in part due to a trace of free HCl. In the ninth week feeding by mouth was discontinued, since, by the occurrence of violent convulsions, the parents of the child had been prejudiced against the stomach washings. For two weeks longer the little pa-

\* Barbour, in the *Edinburgh Medical Journal*, October 18, 1895, in a series of papers upon the study of frozen sections, after passing in review the various sections described by different investigators, makes an estimate of the value of this method of study, as follows: Barbour considers that, by means of such sections, we have gained most in knowledge regarding the birth canal. He acknowledges the limitations which are inevitable in such study, but considers that we have by this method acquired ideas which have revolutionized our conceptions of study

\* The report is printed in the *Deutsche med. Monatsschrift*, 1895, No. 6.

tient was kept alive by giving nutritive enemata. Then, in the eleventh week, the child died.

The anatomical diagnosis of this case is cleared up by the microscope. We find an immense hypertrophy of the wall of the pylorus. The stenosis may have been primary or may have arisen secondarily with the progressing hypertrophy and unyielding contraction of the pyloric ring. The circumference of the mucous membrane of the pylorus is so small that we assume not only a hypertrophy, but also a congenital stenosis of the pylorus.

The so-called stenosis and hypertrophy of the pylorus was first described by Landerer (1). Later on, in the year 1885, R. Maier (2) published thirty cases, nearly all of which concerned adults, a few only of children over ten years of age. None of these bears comparison with our case. Tilger (3) published in the year 1893 a very thorough and elaborate treatise on *Hypertrophy of the Pylorus*, adducing, at the same time, quite a literature on this subject. Nearly always did it relate to adults. Hirschsprung (4) was the first one to describe, in the year 1888, stenosis of the pylorus referable to infancy. He gives an account of two cases. The first case was a girl, which ten days after birth began to vomit and which on the thirtieth day died, utterly emaciated. The pylorus consisted of a cylindrical thickening two centimetres and a half long; its lumen permitted the passage of a medium-sized probe. All parts were concerned in the hypertrophy, chiefly, however, the muscularis coat. The second case exhibited stenosis symptoms from the third month of its life, and died in the sixth month. The pylorus had a total length of three centimetres and allowed the passage of a lead pencil. Peden (5) refers to a similar case. A child, vomiting almost from the time of birth, dies after three months, showing a considerably thickened pylorus, the lumen of which was five millimetres in diameter. Submucosa displayed hypertrophy to a high degree, the muscularis to a less. Pitt (6) observed a like case in an infant of six weeks.

Thus the four cases last described are fairly similar to our case.

As regards the ætiology of this affection, it seems to me quite doubtful that all the so-called cases of congenital hypertrophy of the pylorus are in reality cases which developed during intra-uterine life. We must by all means draw a dividing line between cases which during infancy yield no or hardly any symptoms, and such as give symptoms and still do not shorten life until about the time of full development, and, thirdly, such cases as lead to death during infancy. These latter cases are certainly congenital, inasmuch as they give rise to serious disturbances in the first weeks of life. It seems to us highly improbable that cases like those of Pilliet (7) and Clodivilla (8) can be called congenital, as both these cases referred to old age. Maier adduces that the closure of the foramen Winslowii might be an ætiological factor.

According to the above-mentioned literature, congenital stenosis and hypertrophy of the pylorus does not appear to be at all such a rare affection; all the more important is it, therefore, to make the diagnosis *in vivo*. We must think of congenital stenosis and hypertrophy of the pylorus as soon as a child suffers from constant vomiting without apparent cause, and especially without symptoms of a gastritis or enteritis, and, above all, if three or more hours after taking food nearly the whole quantity can be removed by a stomach tube.

In our case the diagnosis might have been arrived at, inasmuch as the child could retain absolutely nothing on its stomach, and was subject to continual vomiting attacks. Closure of the gut, however, could be excluded in this case, as the child vomited at no time either faecal matter or bile.

Thus the diagnosis would depend upon:

1. Constant vomiting, without any clinical reasonable cause (such as meningitis, etc.).
2. Evidences of retained stomach contents due to motor disturbances in the propelling forces.
3. Absence of occlusion symptoms in the intestines.
4. The ease with which, in the presence of the collapsed intestines, the stomach, and especially the rather hard pylorus, permits of palpation.

The diagnosis being once established, surgical interference alone will be of any avail or benefit to the patient—either Loreta's operation (laparotomy, opening the stomach, and dilating the stenosed pylorus) or else simple gastro-enterostomy.

*Annotation.*—Microscopical investigations regarding the ætiology of the congenital hypertrophy and stenosis of the pylorus have contributed in delaying the appearance of this paper. Since the issue, however, of two articles on the congenital stenosis and hypertrophy of the pylorus during infancy, by H. Finkelstein (9) and Chr. Gran (10), I now no longer hesitate in publishing this case, which might contribute to the knowledge of this rather unknown though hardly rare disease.

Finkelstein reports a case in which, *intra vitam*, the diagnosis of pylorus tumor, causing gastrectasy, had been made. It treated of a girl three months old that, in spite of the most energetic treatment, vomited constantly. After she had been under the author's care for four days she died. The autopsy revealed a macroscopical appearance similar to ours. The stomach was dilated; the pylorus displayed itself as a cylindrical thickening 2.2 centimetres in length and 1.5 centimetre in thickness. The mucous membrane, at the entrance of the pylorus and in the pylorus proper, was in a tumid state and reddish in appearance. The thickness of the pyloric wall was five millimetres, the major part of which belonged to the muscularis. There is considerable difference, however, in the microscopical appearance of Finkelstein's case and ours.

1. He found marked infiltration of the mucous



membrane and the submucosa, with small polyplike prominences (whereas in our case the mucosa exhibited hardly any changes).

2. The thickening of the pyloric wall consisted of longitudinal fibres.

Of the three cases of Gran's which came to the autopsy table, two of them showed slight ringlike stenosis of the pylorus, whereas the third one exhibited marked stenosis. The case was a girl four months of age, who for two months had been subject to frequent attacks of vomiting, and who, finally, on account of this incessant vomiting, was admitted into the Charité at Berlin. There she died two weeks after admission.

The repeated chemical examinations of the stomach contents showed either no or only a slight trace of free hydrochloric acid; now and then a trace of lactic acid; no peptones, but sugar. The digestion of milk seemed to be more impaired than that of barley water. Microscopically, there was found in the stomach contents yeast, cocci, short, rodlike bacilli, but at no time any sarcinae. One bacteriological examination demonstrated the presence of the *Bacterium coli commune*. The clinical diagnosis arrived at was motor insufficiency and atony of the stomach. At the autopsy the stomach was found not very much dilated, the pylorus thickened. It showed hypertrophy of all its layers, especially, however, of its circular muscle fibres. The lumen of the pylorus measured three millimetres in diameter.

Of the four new cases that of Finkelstein forms an exception, as it showed the thickening of the pylorus to be due to a hypertrophy of the longitudinal muscle fibres. The circular fibres, which in all other cases cause the thickening of the pylorus, were in this case but slightly developed.

On the other hand, a case of Gran's, that of Frieda W., presented microscopical appearances similar to ours.

Diagnostically, Finkelstein arrives at the same conclusions as we do; calls, however, attention to differentiate from carcinoma pylori (unique in infants); furthermore, to obstructing polypi, tumors of the neighboring organs, etc.

That the diagnosis is possible during life is proved by Finkelstein's case as well as by some patients of O. Heubner. The latter showed moderate stenosis. By dietetic measures these patients were kept alive, some of them improving even a great deal. It is a pity, however, that Finkelstein, in spite of his clever diagnosis, did not resort to surgical interference, probably because the case came too late under his observation.

#### Literature.

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7. A. Pilliet. *Bulletin de la Soc. anatom. de Paris*, 1889, iii, p. 538.

8. Clodivilla. *Gazzetta degli ospitali*, Milano, 1888, p. 618.

9. H. Finkelstein. Ueber angeb. Pylorusstenose im Säuglingsalter. *Jahrbuch für Kinderheilkunde*, Bd. liii, September 11, 1896, p. 105. (Arbeiten aus der Kinderabteilung der Berliner Charité.)

10. Chr. Gran. Bemerkungen über die Magenfunctionen und die anatomischen Veränderungen bei angeborener Pylorusstenose. *Ibid.*, p. 118.

More extensive literature will be found mentioned in Tilger's essay.

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## PECULIAR SYMPTOMATA OF SYMPATHETIC DISTURBANCES.\*

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I THINK that the fellows will agree with the reader that one of the bugbears in the study of medicine is embraced in the phrase—the sympathetic nervous system.

In most of the curricula of medical schools very brief mention is made of the sympathetic nervous system, outside of a cursory survey of its anatomical relationship, for the main reason, I apprehend, that, owing to the minute, almost microscopic, tracery of its network, its ramifications, being remote from its central and anastomosing ganglia, are with a difficulty relatively absolute with the present imperfection of the microscope to be followed up into its visceral enfoldment.

So far as I know, there have been no systematic investigations of its clinical rationale until very lately, and these studies have been embraced in monographs emanating very largely from the gynecological and rectal fields of medical research, therein receiving, I believe, original impulse from observations regarding sympathetic pressure disturbance or so-called nerve-pinching of some sympathetic area involved in either plastic exudation or swollen parenchyma.

It has seemed and does seem to me that such original observations already alluded to will in time remove that excuse for ignorance, that vague expression of wisdom—namely, the term reflex phenomena, as explanatory of disturbances in the nervation of the sympathetic; when causes thereof can be more or less easily found resident in sympathetic locale, and producing thereby symptomata confined to the affected area or areas, or producing at the same time symptoms in regions of the body more or less remote from the originally more affected sympathetic area.

\* Read before the Harrisburg, Pa., Academy of Medicine, September 25, 1896.

As to the term reflex, who of us can really, clearly, and succinctly explain its meaning as commonly used?

Explanatory in a clinic, it does not have that directness of expression needed in elucidating the causative meaning of a functional or organic disturbance that a medical term should embrace.

We have been obliged to be satisfied with such a usage, but I do not believe that any medical student or any physician ever existed who has not wished that he knew what the rationale of a so-called reflex phenomenon meant, though he might make never so brave a showing to himself or others that he did understand it.

Now, in view of this difficulty, it seems to me that much confusion could be avoided and more knowledge could be gained if we would confine the term reflex to the field of nomenclature wherein it belongs, and more often substitute therefor sympathetic innervation or nervation, as the case may be.

In estimating the symptomatic and biological values of the sympathetic nerve in medical assumptions, why should we so often lose sight of that wonderful fact, so profoundly true and of such tremendous significance, that independent physical life in its broadest sense begins with the protuberant abdomen of the infant so rhythmically rising and falling, in consonance with the fiat of the Almighty, and "He breathed the breath of life into his nostrils," and he lived, even as the breath of life, earth's atmosphere with its fifteen pounds' pressure to the square inch, exerts itself on belly and lung, which to me are the golden bowl of life, containing the silver cord, the sympathetic?

Why should we not remember, again, that, with the onset of physical death and the outward completion thereof, the abdomen flattens and recedes from the anterior plane; when both lung and belly are stilled in death, the golden bowl is broken, the silver cord is loosed, and all of physical life, its nervations and perturbations, are ended in the beginning of the spiritual?

In almost every problem of sickness, of light or grave import, the above fact, so unconsciously and so universally noted by us all, has ever been of the most paramount importance to me since I began to medically think, and the result to me of a so fascinating study has inclined me to believe that the sympathetic nervous system has to do with the majority of functional or organic diseases.

While the same observation may have been noted by each and all of us, have we not been too inclined to accept a too vague explanation of it all in the use of the term reflex?

Are we not too prone to observe and treat ailments too symptomatically, rather than to seek an etiological rationale thereof?

In puzzling over facts observed and recorded by so many authors regarding the phenomena of sympathetic nervation, it has seemed to me that much confusion might be avoided if we used the term direct instead of

the terms indirect or reflex as explanative of sympathetic nerve action; for in the very observations regarding the pressure of or pinching of a certain area or of areas of the sympathetic nerve we get a direct onslaught of the same, while all of the symptomata arising therefrom are effaced by the entire removal of this pressure.

It used to be said, and such an explanation is in some quarters still used, that these phenomena of suffering were reflex in origin rather than direct, but I think that the time has gone by when such an explanation is or can be satisfactory to the majority of physicians.

Now I suppose that case upon case could be piled up in building proof of this statement, and I believe that many cases could be recalled by more than one of us as a support of the same, and yet, at the risk of wearying your patience, I would like to call to your observant attention a few occurring in my own clinic, because they illustrate the central idea of my subject which I wish to emphasize, and concerning which I wish to provoke your discussion—namely, that it is not in the use of the term reflex that we can seek or find a causative explanation of the symptomata of sympathetic irritation, but that the adjective direct should qualify the etiological factor.

A woman, multipara, forty-eight years of age, came to me regarding a diarrhoea of eight years' standing. The attending symptoms were pain before and after defecation of a throbbing character, backache, headache, nausea, anorexia, hot and cold flashes, pain in the back of the head, stiffness in the muscles of the back of the head and neck, aggravated dyspepsia, abdominal bloating, palpitation, and vaginal and anal pruritus. The diarrhoea and many of the symptoms had been often and temporarily controlled by such medicines as physicians ordinarily use therefor, to return with all cessation of drug therapeutics. These symptoms in their entirety pointed to direct disturbance of the sympathetic.

Physical examination revealed only rectal ulcers and fissures. The patient, owing to financial stress, would not receive local office treatment, and resort was had to a one-per-cent. solution of trichloride of iodine, a quart of which I gave her with instructions to receive a rectal injection of half a pint morning and evening. The treatment was adopted, with the result of her having a most unbearably intense itching of the entire inner abdominal tract from the navel down, involving both iliac regions, which persisted for two days, and was followed by an intense headache and rapid pulse, which large doses of morphine did not directly relieve, when Nature herself stepped in with a profuse nasal hemorrhage which swept away her suffering. There has been entire relief from diarrhoea and all of the symptoms for the last two years.

A young gentleman, aged twenty-four years, thin skinned, a blond, with a history of onanism up to sixteen years of age, and a history of chorea at puberty, came to me for relief from the following symptoms: Four or five nocturnal emissions weekly, and physical exhaustion therefrom; memory defective, voice husky and not to be depended upon in singing; trembling in the limbs, enormous appetite, and a sound sleeper; not of a vivid erotic imagination; backache, constipation,

diameter of faeces small; some dyspepsia, weak eyes, ringing in the ears, giddiness, general weakness, and lack of mental or physical concentration; but the most persistent and most annoying symptoms, on which he laid the greatest stress, were a stiffness in the back of the neck and head, a creeping sensation therein, and an intense burning in the eyes, described as involving the eyeballs, whenever he urinated, this burning being more intense whenever he passed small amounts of highly colored urine. The patient invariably observed a seminal explosion following eye-burning and finally connected the two together. Palpitation was only occasionally present. The face was very pale and the physiognomy of the disease was very apparent in the vesico-rectal plane. While this latter point was a guiding factor in the superficial examination of his trouble, a physical research was imperative in establishing its aetiology. Such an examination revealed negative results until the penis and rectum were searched. The anal sphincters were abnormally tight. Here was revealed a local constriction or pressure of the terminals of the sympathetic. The testicles were firm and of normal size, the epididymis being not enlarged or unduly tortuous. The urethra is one of the most irritable urethrae I ever examined. The endoscope revealed patches of granulations and striæ of inflammation here and there throughout the urethral tract, and local treatment was at first difficult to pursue, because of its tendency to cause *emissionem seminis ab examinatione*, several examples of which did happen, and directly after which there was considerable eye-burning. A few rectal dilatations have insured regular and pressing stools of large calibre and a cessation of abdominal bloating. Proper and systematic urethral treatment is ending the emissions, which on several occasions have been diurnal, by relieving the urethral irritability and tenderness. Peculiar symptomata of sympathetic disturbances and irritability have several times been here noted, in that the direct urethral treatment has caused fainting and collapse, relieved by spontaneous nausea, vomiting, micturition, and defecation by this patient in my office. No drugs have been used, for they add fuel to the fire. No warning has been uttered to keep from lewd thoughts and immoral and exciting reading, nor has any regimen of diet been employed, save in one instance an interdiction from soda water, for carbonic-acid gas is an erotic drink in such cases, and in this case always increased his trouble. Ejaculation was always at first premature and without pleasure, and desire was tormenting. The twenty-four hours' collection of urine and the specific gravity thereof were in normal proportion to his body weight; consequently the symptoms apparently remote from the injured sympathetic area, such as burning of the eyes and annoyance in the neck and head, which might be called psychic in their expression, could not be ascribed to lithæmia. It seems to me that all of these symptomata are directly attributable to sympathetic nerve irritation and should not be called reflex, for they are all disappearing with the improvement of the urethral irritability.

A man came to my office suffering from one of the most aggravated attacks of right sciatic irritation I have ever noted, of six or eight weeks' duration. To me the cause of the inflammation was apparent at a glance at his face, for it was visible in the labial physiognomical plane of disease suffering. The right limb was almost helpless, and dragged on locomotion, and he walked with the assistance of a cane. Previous hypodermic medica-

tion had been used without avail. Was there any rheumatic aetiological factor present? Was there any lithæmia present? No, for an examination of the twenty-four hours' urine, with the specific gravity of the same and the body weight, showed only a lack of seventy grains total urinary solids, not enough to obtain a cause in this supposition. Physical examination revealed absolutely negative results outside of rectal. What was found herein? An enlarged, sensitive, tender, and swollen vermiform appendix, verified subsequently by another physician. Pressure on the appendix caused a marked and sudden exacerbation of pain in the affected limb. The pain could not have been caused by my moving the limb on examination of the appendix, because I wished to eliminate this factor if possible, and therefore the examination was very gentle. Again, there was not much pain in the leg in the recumbent position, but there was increasing pain with the assumption of the upright position, owing to the weight of the superincumbent intestines on the appendix. There was much constipation; there were very tight anal sphincters. There was a temperature only half a degree above normal. There was tenderness in the right iliac region on deep pressure, leaving a dull aching thereafter. The iliac percussion note was dull. On inquiry, I found that the patient had slipped and strained the right iliac region two or three days before the sciatic complication made its abrupt onset.

A curious point in this case is that as soon as the sciatic pain was controlled the iliac suffering became more pronounced. The anal sphincters were cautiously dilated; the bowel was oiled out night and morning; the tendency to appendicular inflammation was combated with appropriate remedies; the sciatic involvement was treated with kola celery compound, faradism, galvanism, and hypnotism, and the man is very nearly well after two weeks of treatment and resumed his work on the 14th of this month.

In view of the complication which was the more prominent in the gamut of suffering, it is interesting to note the primary aetiological factor, resident in a nerve-pinching of a sympathetic area, and a fact I have several times noticed, that outward expressions of symptomatic suffering are often revealed in body planes parallel to the seat of the cause.

A young gentleman, thirty-four years of age, came to consult me for almost nightly emissions. He was desirous of marrying, and questioned therefor his physical integrity. His physiognomy revealed a rectal cause, but he said he had not had hæmorrhoids since he was twelve years old, which his physician had attributed to horseback riding. There was no erotic desire or fancy. The urine was normal macroscopically and chemically, and the microscope revealed occasional spermatozoa. There was no spermatorrhœa. He had been treated for a most aggravated dyspepsia, with no permanent results. He had been advised to exercise, a treatment always aggravating seminal emissions. He had taken *nux vomica*, strychnine, phosphorus, damiana, bromides, *ad nauseam*, without avail. He had been advised to read good and prayerful works, which availed him naught. In short, all of the treatment supposed to be and adopted as curative of such troubles accomplished nothing but



to bring the man to the verge of melancholy and suicide. His memory was defective, his bodily powers were waning. The usually so termed psychic symptomata, such as spinal pain and stiffness from coccyx to cerebellum, were markedly present. Examination revealed a large penis, firm and sound testicles, relaxed scrotum. Was there any ordinarily irritable urethra? There was no inflammatory condition of the mucosa, but was its calibre normal to the sound touch? No. It was abnormally tight throughout its whole extent, not admitting the smallest sound. It was practically dead, and for this reason, while examining, I began to despair, for it was one of Ultzman's dicta that, given a dead urethra irresponsive to the stimulus of a sound, you have something very nearly approaching to impotency. But, on examining digitally the rectum, I found what so often exists in parallelism with a tight urethra, an abnormally tightened condition of both anal sphincters, and touching an ulcer behind the inner sphincter caused a very strong erection. On applying a hot sound to the penis, the sensation of heat was not experienced by the patient. The key to the solution of this man's trouble lay, therefore, in the rectum entirely. Dilating the same at weekly intervals at first, applying the static faradaic and galvanic currents to all affected symptomatic areas, and treating the rectal lesions allayed the trouble therein and enlarged the urethral calibre, all of the rest of the symptomata disappeared, and the man is now well and very grateful.

In the service of an eminent physician of a place not far from Harrisburg, I was asked to assist in an operation, a very serious one to perform, in view of its locale over the heart and diaphragm. The field of the operation being near to the solar plexus, there was evident concern expressed as to whether the patient would survive the operation for that very reason. The medical attendants were all prepared, however. The patient after the operation went into collapse. The usual pumping of the legs and arms was resorted to without avail. The etherizer was one of the best in the city. The operation was most thoughtfully and thoroughly performed. Hypodermic injections of restoratives had been made ready prior to the first cut, and were obviously called for, but were not used until subsequent to the following procedure, which is, of course, unpleasant, and, therefore, when it was successful, to avoid a too frequent repetition of it, said restorative injections were given. What was the procedure, gentlemen? When the temporal pulse was not felt and when the patient ceased to breathe, the anal sphincters were slowly, steadily, and persistently digitally dilated. The pulse and breathing most marvelously responded and the patient was saved, and is now, I believe, well. This surgical procedure, now gradually creeping into use, affords, it seems to me, one of the happiest instances of the power of the sympathetic in vital phenomena, and is a procedure, I am constrained to believe, that should be adopted in all cases of suspended animation, whether from surgical or electrical shock, drowning or gas asphyxiation, for it is rapid in action, sure in results, profoundly effective on heart and lung and brain, and may work more quickly than the procedure of depressing the chin and alternately relaxing and drawing out the tongue.

The history of a case in the service of another experienced practitioner was submitted to me for my opinion some two years ago. The prominent symptoms were those embraced in a young lady of twenty-seven

years of age and were of some years' standing, and as follows:

A lump in the throat, as she described it, pain in the epigastric region, a bunch visible at times in the left iliac region, but wandering, and anal pruritus. The grandmother had a tapeworm, the mother ditto, and it was supposed by nine other medical observers of the case that the granddaughter might have it, but yet no lengths of worm had been passed by her. There came to me at once a question of inheritance. Did the granddaughter inherit the tapeworm? Do not smile too readily, gentlemen, for such a question involves prenatal influence, and this factor either had to be present or excluded, and, as is well known, prenatal influence is a marked factor in disease, either by environment or heredity. A tentative diagnosis of nymphomania had been suggested. The grandmother's tapeworm had been passed. The mother's tapeworm! Did it pass before she conceived the patient, her daughter? It did. Hence a prenatal factor was eliminated. Was there any nymphomania? The patient's nails were not trimmed nor were the finger pulps unduly developed or soft. Therefore, nymphomania was excluded. Nothing remained but a physical examination to clear up the diagnosis. From the appearance of the patient's face I was inclined to more readily examine the rectum than the vagina. A rectal digital examination revealed a prolapsed, enormously enlarged left ovary of almost stony hardness. Touching this gave the lump in the throat a sensation of hunger. Firmer pressure gave epigastric pain as well. Why? Because there was a softened condition of the rectal mucosa near the sigmoid, due to ovarian pressure, which conveyed the sensation of sympathetic nerve irritation to the stomach, and resulted in its excess, by reason of a loaded rectum, in epigastric pain. Now, the superficial symptomata of this case might be ascribed to hysteria, pure and simple, for they were confined to sensations of hunger in the throat and stomach and pain in the latter, and we had the bunch as well in the groin, but, of paramount importance in diagnosing the case, all the symptoms disappeared like magic on the taking of food at any and all times of the day and night.

Therefore the superficial symptomata relative to the probable existence of a tapeworm were not very wrongly measured in diagnosis, because I believe sympathetic nerve disturbances are not enough commented upon with sufficient diagnostic acumen in the text-books of the day. Nor could, in this case, the sensations of hunger be correctly estimated in view of the physiological dictum obtaining, that hunger sensation is resident either in the general system, the stomach, or pharynx, for I believe it can evolve anywhere in the intestinal tract, from the tongue to the rectum, causative conditions being anywhere therein present. In this case it could be, and most probably was, caused very often in this rectum when enlarged with fæces, consequently exerting an almost direct action on the gastric branch of the sympathetic, thereby causing hunger sensation and, what is of obvious importance, raising the enlarged ovary into prominence in the left iliac region. With reference to this latter point it must be remembered that the movements of a tapeworm are sometimes powerful enough to raise, in a patient of spare habit like the

one in question, an abdominal bunch anywhere in the abdominal tract, and that it is not only unjust to the movement power of the tapeworm, but even to the patient himself, in the danger that may arise in diagnosis, to attribute such abdominal bunches and movements to the hysterical fancy of the patient, when hysteria in its protean aspect is not at all present.

In the clinical picture of this last case we have many an illustration of direct onslaught on the sympathetic, and what many would wrongly, I believe, term a reflex disturbance instead of a direct.

I presume, gentlemen, that many of us could recall almost innumerable instances of cases arising in our own practice illustrating the point which I have wished to bring out, that it is a clinical mistake to ascribe many symptoms of a disease entity to so-called reflex action, for thereby our diagnostic acumen is misled in a given case and we are thus prone to treat the spine or the brain even, when the ætiological factor is so often resident in the domain of that great vegetative, assimilative nerve without which there can be no vegetative life, without whose proper nervation there can be no sentient physicism. In closing, let me remind you that a practical guiding point in the determination of proper sympathetic nervation always is to be estimated by the behavior of the sphincters of the solar plexus, the head and front, I believe, of this nervous system; which may be found not alone in the rectum, but in the vagina, uterus, tubes, urethra, bladder, ureter, lips, eyes, stomach, in short, dominating all semiclosed cavities of the body. If the financial rating, health, and autonomy of a metropolis is properly measured and guarded by its sewage, none the less is it true that the same facts pertain, in the main, to the laws of the health of the body, that there may be proper physiological functioning of the same.

If your reader has unduly taxed your patience by the personal equation, he hopes to be forgiven, since he has always been profoundly interested in a subject which ought to be more thoroughly investigated and brought before professional minds.

With the hope that the matter may merit your intelligent criticism and provoke a thorough discussion, your reader thanks you all for the attention which you have been pleased to bestow.

## TRAUMATIC HÆMARTHROSIS OF THE KNEE JOINT.

By J. O'CONOR, M. A., M. D., B. CH., TRINITY COLLEGE, DUBLIN  
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CASE I.—P. S., aged thirty years, sailor, admitted on the 2d of June last, suffering from stiffness and swelling of left knee joint.

*Previous History.*—While working on deck on February 3, 1895, he was knocked down by a sea, and immediately afterward his left knee was very much swollen

and painful. After a month's rest in his bunk, he was taken to a hospital in Hamburg, where, he said, they treated him for "congealed blood in the joint"; "with a hot probe they made an opening and squeezed the blood out." After six months he was discharged with an elastic bandage; he was unable to resume work for another two months, owing to the constant pain and swelling, and from that time until his admission into the British Hospital he could not flex the leg beyond a right angle.

On March 15, 1896, while crossing a plank from his ship to the wharf, the plank broke and he fell into the water, his left knee striking the curbstone as he fell; immediately afterward his mates and himself recognized that the kneecap was "split in two." He was taken to the nearest hospital, and the limb was placed in a box splint; this was not removed for seventeen days. After this, three consecutive plaster cases were applied, and thus the joint was kept immobile until June 1st. On this date he decided to come to Buenos Aires, for, he states, "my joint was useless, and I thought it better to clear from that place."

His condition, on admission into the British Hospital, was as follows: The left knee joint was considerably thickened and apparently distended; active movement absent; the patellar bursa was considerably enlarged, and any attempt at passive motion caused severe pain. On palpation a united vertical fracture of the patella was readily made out; there was a slight increase of local heat, but his body temperature was normal. These symptoms, along with the history, made the diagnosis pretty certain that dense adhesions had formed, most probably a quantity of organizing clot was still present in the articulation, and that the enlargement of the patellar bursa was due to effused blood.

On June 4th an incision was made into the joint; on opening the capsule no serum or blood was found, but when the right index finger was introduced six strong adhesions were encountered, firmly connecting the posterior surface of the patella to the femur; as a futile attempt was made to rupture them with the finger, a strong scissors was introduced and the adhesions were divided. A considerable amount of hemorrhage followed, so much so that it was thought advisable to irrigate with warm turpentine lotion; small sponges were introduced and direct pressure made. As some oozing continued, the joint was packed with iodoform gauze, and three "waiting" sutures were inserted. An incision was then made into the distended bursa and one ounce of dark blood evacuated. The cavity of the bursa was lined with numerous melon-seed bodies; these were removed with a Volkmann spoon, gauze packing applied, and the leg placed in a McIntyre splint.

*Second Day.*—Dressings removed. The gauze was so saturated with blood that it had evidently been converted into a plug, for when it was removed a quantity of blood escaped from the joint; irrigation with turpentine lotion, and a gauze drain inserted.

*Third Day.*—Dressed; oozing still continues; irrigation and drainage.

*Sixth Day.*—The joint was found quite dry.

*Ninth Day.*—The wound was closed by "waiting" sutures.

*Fifteenth Day.*—Splint removed and stitches taken out; the bursal wound was also healed; patient was ordered to commence active movement.

*Sixteenth Day.*—Allowed out of bed; he could flex the leg to a right angle.

*Eighteenth Day.*—He walked across the ward with-



out a stick, and by the thirtieth day he could run and kick and flex the leg, almost making the heel touch the nates.

*Fortieth Day.*—He walked out of the hospital without a limp, normal movement completely restored. A month later he reported that his limb was normal.

*CASE II.*—P. W. W., aged twenty-nine years, camp man; admitted into hospital on July 8th, suffering from painful distention of right knee joint.

While playing polo on July 5th he was run into, his opponent's horse's chest catching his right knee, and knocking over both him and his steed. On account of the severe pain he had to lie on the ground for some time, "but after a big lot of *caña* he was able to resume the game, finished the quarter, and managed to hit the deciding goal"; when play ceased he could not lift his right leg to dismount.

He was put to bed and, of course, had his knee rubbed with Elliman's embrocation, which increased the swelling, stiffness, and pain; however, he continued rubbing, but by the 8th of July things looked so bad that he came to Buenos Aires and entered the hospital.

On the 9th I aspirated the joint and found blood; he was immediately placed under chloroform and the usual incision made; three ounces of blood were evacuated, and the joint was irrigated with warm 1-in-2,000 corrosive sublimate, and gauze drain and "waiting" sutures inserted.

The third day the dressings were changed, a large quantity of synovial fluid escaping after the gauze was taken out; drain again inserted.

*Fifth Day.*—Again dressed, joint quite dry.

*Seventh Day.*—Gauze drain dispensed with; he flexed the leg through half a right angle.

*Twelfth Day.*—Wound closed.

*Seventeenth Day.*—Allowed out of bed, movement to a right angle.

*Twenty-first Day.*—Sutures removed. He could walk without crutches, movement almost normal. He was discharged cured on the twenty-fourth day.

A week later he reported that his limb was as strong as ever.

*CASE III.*—R. P., aged thirty-one years, camp man. On May 14th, while driving in a sulky, the horse bolted, and when the patient was jumping from the trap his left leg got caught between it and the wheel, the limb being severely wrenched. Immediately afterward he attempted to stand, but could not do so; he was taken home, put to bed, and had his knee rubbed with Elliman's embrocation; this treatment increased the pain and swelling. Next day hot fomentations were applied with some relief. On the fourth day he was taken to the nearest town and a doctor called in, who stated there was a fracture into left knee joint, and that a permanent stiff knee would be the result. The following day he was taken to Buenos Aires and admitted into the British Hospital. On examination the left knee was found greatly distended and very painful to touch; no crepitus elicited, as passive motion was impossible; heat well marked; a large extravasation of blood had taken place into the popliteal and calf regions; temperature, 99.5°.

On the following morning chloroform was administered, and an incision an inch and a half in length made parallel to the inner border of the patella; five ounces of blood and clots were evacuated from the joint. On digital examination no fracture was discovered; the cav-

ity was irrigated with warm 1-in-1,000 corrosive sublimate, in order to remove some adherent clots, iodoform gauze drains inserted into the synovial pouch, and three "waiting" sutures were introduced through the whole thickness of the incision.

*First Day.*—Dressings and drains removed, joint quite dry, temperature normal, gauze reinserted.

*Sixth Day.*—Sutures were drawn tight and the wound closed.

*Twenty-second Day.*—Splint was removed; active movement through an angle of sixty degrees.

*Thirtieth Day.*—He was allowed out of bed; movement through a right angle. He was discharged on the fiftieth day. He could now bear his weight on the limb and move the joint to a little more than a right angle. On the eightieth day he came to the hospital to report himself. He could walk briskly; movement almost normal; no pain; he informed us that he had been riding about the camp for the past fortnight without any inconvenience. He was ordered massage.

Up to the present time the treatment of this affection has been somewhat vague, doubtless due to the fact that the character of the effused fluid was often merely guessed at; consequently, many cases of hæmarthrosis were treated as if they had been collections of serum and synovia. The treatment adopted was a general one: absolute rest, ice-bags, strapping, and blisters; therefore it can not be wondered at that some of the patients remained with permanently damaged knees; for it is perfectly obvious that formation of adhesions must follow such treatment for effused blood, which, when once formed, are almost impossible to get properly rid of unless the joint is opened and the bleeding from the ruptured adhesions drained off. I think there are very few of us who have not, time after time, diagnosed such effusion as simple synovitis, and applied the orthodox expectant treatment, without precisely knowing whether we had to deal with a collection of blood, or of serum, or an excess of synovial fluid, or a combination of them all. This inexactitude in treatment was in great measure due to the septic idea that the knee joint was holy ground so far as a surgical instrument was concerned. As Listerism has altered that condition of things, I think there can be no practical reason why an aspirating needle should not be used in the majority of cases, as a mere diagnostic agent, in order to find out exactly what is the condition we are called on to cure. Without seeing the fluid we can not properly treat the case, nor can we give a correct prognosis. Possibly, in the near future, a development of the Roentgen rays may even render such a test unnecessary.

On consulting one of the best and most recent *Systems of Surgery* (Treves), I find the subject of hæmarthrosis is not even considered under a separate heading, mentioned only in the differential diagnosis of acute synovitis, and in all only some twenty lines are devoted to its signs, and nothing as to its treatment. This fact in itself suffices to show that it has not been looked on as of frequent occurrence, yet I feel per-



fectly certain that effusion of blood, following injuries to the knee joint, is much more common than is ordinarily supposed. It may be interesting to consider some of the methods adopted for the treatment of this lesion.

*Firstly.*—We have the expectant or absolute-rest plan. No doubt this has antiquity on its side, but I think little else but bad can be said of it, and the reasons of this opinion are so very obvious that it is unnecessary to waste valuable space by detailing them.

*Secondly.*—There are some who recommend massage and early movement, without any preliminary operation. If the teaching of Hilton is to be considered at all, such a practice as rubbing the surface of a painful and irritable joint, in order to help Nature to absorb blood, is as barbarous as it is unsurgical. Indeed, the patient, if left alone, would, in all probability, adopt this plan. By his consulting a doctor who believes in this method, he eventually gets something more, an introduction to the professional masseur, who immediately informs the client that he should have come to him "right away"; that "it will cost so much money and take so many months to loosen the strings and work the bones back into their places." It would be quite superfluous for me now to follow such a case to its conclusion, if it ever has one. During ten years' constant hospital experience I have had, I regret to say, many opportunities of seeing the results of such injudicious treatment, and I trust as our science advances such a method will be not only not practised but forgotten.

*Thirdly.*—Evacuation of the blood by puncture, supplemented by massage and early movement, is rather the fashion of the day. Quite recently I had the opportunity of reading in the *British Medical Journal* Mr. Barker's description of an operation for recent fractures of the patella. In this he admits that the removal of the effused blood is a most important matter, and in order to serve the object of this paper I will state how he proceeds to do it. With a narrow-bladed knife he makes two punctures, one above and the other below the patella; he then "squeezes" and "kneads" the joint, and by such manipulations professes to "effectually" empty it. "It is quite clear that this can be more completely effected at once through our punctures, and, in these aseptic days, quite as safely."

To any one accustomed to evacuate blood from joints by free incisions this must appear an uncertain if not an impossible task, for—

(1) There are some parts of the joint where squeezing and kneading can not possibly dislodge the coagulated blood.

(2) The joint has already received severe traumatism; to this the above-described manoeuvres are added, which doubtless only tend to increase the irritation of the already injured structures.

(3) The danger of blood gravitating back into the joint from the very punctures themselves. I have fre-

quently noted, on opening the knee joint, the vascularity of the cut tissues, necessitating some minutes' sponging or ligation of the bleeding points before opening the capsule; and

(4) The uncertainty that must attend any subcutaneous operation.

Mr. Barker, in another part of his paper, states: "Another most important measure to be adopted immediately after operation is massage; this is begun the day after operation and continued for a couple of weeks; the effect is to cause absorption of any blood left in the joint and the tissues around." I confess I was astonished to encounter this statement after the one mentioned above, for it is either a direct contradiction or else the terms "effectually done" and "completely effected at once" are misapplied.

Even with these two performances the job is not finished, for he states: "Now as to the adjustment of the fragments: Before the wire is introduced the operator takes each fragment between the finger and thumb of opposite hands; he then proceeds to rub the fractured surfaces one against the other; then, rubbing them from side to side, he is soon conscious he has dislodged all the blood from between them, or clot, or fibrous material, and that they grate one against the other like lumps of sugar." No doubt when the "sugar" feeling is obtained, blood and clots are most probably dislodged; but what becomes of bits of clot, fibrous material, and bone dust? As Mr. Barker does not state that squeezing and kneading delivers them through the puncture holes, I infer that he unwittingly converts the knee joint into a sort of surgical dust bin.

As I stated in a previous paper on this subject, I have often puzzled over the rationale of early movement and massage at a time when the joint structures are irritable and inflamed. Mr. Barker fully satisfies my curiosity when he confesses that they are used partly to get over imperfections in the operation; and I can thoroughly appreciate it would never do to give Nature a chance when bone dust, bits of blood clot, and fibrous material were left loose in the joint cavity.

I do not wish it to be understood that I for one moment advocate the abolition of massage and movement; on the contrary, I consider them most excellent measures in their season: that is, when the fragments have had time to unite, the irritation and inflammation of the joint structures have disappeared, and care has been taken that the principal cause of adhesions, blood, has been effectually removed. If the latter is not thoroughly done, I look on them as a species of brute-force surgery, with, as usual, a Nemesis in store for it. In order to bear this opinion out more fully, I can not do better than quote the last paragraph in Mr. Barker's paper: "It should be remembered that patients who have once broken their patella are liable, whether operated on or not, to attacks of synovitis on overexertion of the joint; with a little rest the condition is quite relieved. We can

hardly expect after so severe an injury as that which fractures the patella that there should be in all cases a complete re-establishment of the vasomotor balance in the circulation of the synovial membrane."

In those who have not had an operation I expect "nothing," but in those who have been operated on I fail to see, if a proper operation was carried out, why recurrent synovitis should take place. No doubt, the lack of the re-establishment of the vasomotor balance is a very pretty idea, but I should think rather a feeble scapegoat. I attribute such failures to the fact that with the *nimia diligentia* of meddlesome surgery, in the way of ill-timed massage and movement, combined with a faulty operation, the synovial membrane has never had a chance to return to its normal state. Instead, a chronic inflammation is set up, a fire left smoldering, necessitating only some overexertion to set it ablaze again.

It may seem a forlorn hope for any surgeon to attempt to stem the tide, the craze of the hour, but, as in everything else, reflection and reason ultimately gain the upper hand. The value of fads is impartially analyzed, their good points are retained and their bad ones cast aside, and doubtless time will strike the happy mean so far as massage and movement are concerned, in joint surgery.

At present it would really appear that the tendency of modern surgery is to absolutely ignore physiological repair, for, in every medical paper one opens, some new ambulatory treatment for fractures or joint injuries may be seen vaunted; the idea of pausing to consider if our methods are consistent with physiology would appear mere waste of time. Yet how refreshing it is to occasionally meet with an article like that written by Mr. Stanmore Bishop, *The Eye as a Joint*. I have not yet seen his question answered: "If you dare not rub an inflamed eye, why do you presume to rub an inflamed joint?" Surely the advocates of early massage can give a better answer than that they do so in order that atrophy of muscle and bone may not ensue, for atrophy is a natural physiological consequence to the rest that is requisite for physiological repair.

In conclusion, the treatment I wish to bring under the notice of the profession is:

1. In cases of effusion into the knee joint an aspirating needle should be introduced in order to arrive at a correct diagnosis.

2. If blood is present, an incision should immediately be made into the synovial pouch, and every particle of blood and clot removed; in case of fracture into the joint, the fragments should be examined, and, if necessary, reduced and fixed.

3. A gauze drain should be inserted for a few days in order to make certain that no further reaccumulation shall take place, and when it is evident that there is no further danger of this occurring the external wound should be closed by "waiting" sutures.

4. When union is sufficiently firm, active movement should be encouraged, and when this can be painlessly executed, then, and then only, is massage a most useful adjunct in restoring the muscles to their normal condition.

#### A CASE OF

### BIFID UVULA WITH DEGENERACY.

By LEWIS S. SOMERS, M.D.,

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ABNORMITIES of the soft palate, and especially that portion of it denominated the uvula, are more or less frequently seen in examining a large number of cases suffering from nose or throat affections. Berens, in an investigation of three thousand throats, found the uvula abnormal in eighty-four cases, fourteen of which were deeply cleft. In a considerable proportion of the so-called deformities of the uvula it is extremely difficult to definitely ascertain whether the abnormality present is due to previous disease or is a true congenital deformity—as, for instance, twisting of the uvula to either side of the median line: in these cases it is almost impossible to say conclusively that the defect is congenital. In marked abnormalities, such as cleft or bifid uvula, the distinction becomes one of ease, as there is no known disease that can exactly split the uvula up to the hard palate in the median line.

In conjunction with marked deformity of the uvula, other mental or physical malformations may be present in a considerable percentage of the cases; this seems to be especially marked in neurasthenic subjects. Dr. Charles L. Dana has lately made a study of the uvula in the various forms of degeneracy, and with results that show this portion of the organism to be defective, either as regards the shape or innervation, in very nearly fifty per cent. of the cases examined. As this subject has but recently been thoroughly studied, the following case is reported, not that any conclusions of value can be drawn from one case, but because the deformity of the uvula and the mental degeneracy were so manifest:

The history of the patient is as follows: G. M., male, aged eleven years; was admitted to the clinic of the Union Mission Hospital for chronic otitis media suppurativa. The boy's mental and physical condition were so characteristic of degeneration that the fauces were immediately examined for abnormalities, and the presence of a cleft or bifid uvula was ascertained.

*Family History.*—Father, mother, and two brothers well, and are all bright and intelligent; one sister dead, the mother giving an indefinite history of a "swelling" on the side of her neck which was supposed to have choked her. One brother died with symptoms of hydrocephalus.

*Personal History.*—Born at term; labor was normal, and without the use of instruments. He has suffered no injury to his head. At birth it was noticed that the head was small and compact, the fontanelles being smaller and pulsating more than is usually the case.

Was breast-fed and healthy until three months of age, when he suffered from a severe attack of cholera infantum, from which he never completely recovered his previous health. At nineteen months he had a very severe attack of measles, followed by a suppurating otitis, which has continued at irregular intervals until the present time. He has had no other acute illness, except some digestive troubles during his seventh year. He began to talk at two years and did not walk until he was three. His mother volunteered the information that he had always had a small head. Does very poorly at school, especially in reading and spelling, but is better in arithmetic, although far behind the boys of his own age. He has been going to school since his seventh year.

Understands and expresses a desire when he wishes to empty his bowels and bladder, but if he has to wait is not able to control them. Is not destructive, and expresses a desire to play with other children, and does not annoy them. His general health is fairly good, although he has always been less developed, physically and mentally, than the other children of the family. In eating soft food, as bread, he appears to suck it, and allows the saliva to disintegrate it rather than chew it; he will chew bread naturally when told to. Hard substances, as meat, he eats naturally. He is obedient, and seems to know all things which are told him, although his memory is very poor.

The general appearance of the boy is that of a child undersized for his age, slender in build, and with a facial expression characteristic of deficient mental faculties. His hearing has been gradually becoming impaired during the past two years, although whispered voices are readily responded to, all the change in audition noticeable being a slight diminution in hearing for the watch. His left ear is now practically normal, while the right still suppurates profusely, with evidence of necrosis of bone and the presence of aural polypi.

Examination of the fauces showed a moderate degree of hypertrophic inflammation of the posterior pharyngeal wall, without the presence of adenoid tissue. The uvula was cleft exactly in the median line up to the hard palate, which was moderately Gothic in character. Each half of the uvula seemed to have a separate muscular development, as the individual halves could be separated, although palatal motion was irregular and innervation was below the normal. Other than the cleft uvula, the soft palate presented nothing abnormal, no evidence of any previous diseased state existing. Instead of bifid the word double would more accurately describe the uvula in this case. In the normal uvula the azygos muscle consists of two distinct sets of fibres situated parallel to each other, but acting as one muscle; in this boy the intermuscular tissue, being one of the points of deficient development, was absent, therefore leaving the azygos muscles separated from one another, and each muscular body acting more or less independently.

A twisted or sharply bent position of the uvula is a frequent accompaniment of long-standing nasopharyngeal catarrh, especially if the tonsils have undergone much alteration. Diseases of the nerves or muscles of the soft palate are responsible for a small number of cases seen, but a twisted or acutely bent uvula usually indicates some previous nasopharyngeal inflammation. Defective innervation of the soft palate is frequently as-

sociated with chronic nasopharyngeal catarrh, and then seems to bear no relation to inferior or incomplete nervous development.

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## Therapeutical Notes.

**The Treatment of Pityriasis Capitis.**—Gaucher (*Therapeutische Wochenschrift*, October 25, 1896) says that there are three indications to be fulfilled: 1. The removal of fatty matter and epidermal products by solvent washes. 2. The induction of a change in the skin. 3. Stimulation of the skin to replace the lost hair as far as possible.

The first of these indications may be met by the use of a 5- to 8-to-100 solution of sodium bicarbonate or this solution:

R Sodium borate.....	10 parts;
Ether.....	15 "
Distilled water.....	200 "

Better still is a mixture of equal parts of alcohol and decoction of quillaia bark.

The proper action of the skin may be brought about by inunction with a ten-per-cent. sulphur ointment. Instead of this, the following may be used:

R Corrosive sublimate.....	3 grains;
Chloral hydrate.....	60 "
Resorcin.....	30 "
Alcohol.....	300 "

M. If the skin is very dry, a drachm and a half of castor oil may be added.

Stimulating washes are to be used in the conclusion of the treatment, such as this:

R Tincture of cinchona.....	25 parts;
Tincture of cantharides.....	5 to 50 "
Tincture of benzoin.....	10 "
Spirit of lavender.....	20 "
Alcohol.....	125 "

M. If there is much dryness, the branny scales may be removed by bathing with salt and water or with a five-per-cent. solution of salicylic acid or a one-per-cent. solution of corrosive sublimate.

**Cocaine in the Treatment of Salivary Fistula.**—Guerra (*Annali di medicina navale*, 1896; *Deutsche Medizinische Zeitung*, October 22, 1896) relates the case of a soldier who had received a wound implicating Stenson's duct and the parotid gland, which had left a fistula that proved rebellious to treatment. Finally he painted the whole parotid region with equal parts of glycerin and a five-per-cent. solution of cocaine in water, and within a very few days the flow of saliva subsided. At the same time the wound was treated with the galvanocautery, and it healed in a few weeks. The author imputes the effect of the cocaine to its vaso-constrictor action, in consequence of which less blood was carried to the acini of the gland and less saliva was secreted.

**Nux Vomica in the Treatment of Psoriasis.**—Luton (*Belgique médicale*, 1896, No. 33; *Wiener klinische Rundschau*, October 25, 1896) employs extract of nux vomica in stubborn cases in which arsenic has been of no service. He gives three quarters of a grain daily, and at the same time prescribes effervescent baths and the application of a 1-to-1,000 ointment of corrosive sublimate and vaseline.



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THE TREATMENT OF TUBERCULOUS DISEASE WITH  
MARAGLIANO'S SERUM.

THE *Centralblatt für innere Medizin* for October 24th gives abstracts of several recent articles bearing upon this subject. The first article, by Dr. Maragliano himself, appeared in the *Presse médicale*. In that article the author gives a brief account of how the serum is produced. In the preparation of a product analogous to tuberculin, the cultures are heated to 212° F., and then passed through a Chamberland filter; in that of another product, the cultures are not heated, but are concentrated at a temperature of 86° F. The first contains bacterial proteins; the second, bacterial toxins. As they are in many respects antagonistic in their action, Maragliano attaches great importance to mixing them. When the animals (dogs, horses, and asses) that are to yield the curative serum have by repeated inoculation been rendered proof against injections of highly toxic material, as well as against inoculations with tubercle-bacillus cultures that would kill unprotected animals, they are allowed to go for three or four weeks without further inoculations; then the serum is obtained from them and prepared by the ordinary methods. It contains specific antitoxins, and in man a cubic centimetre of it will neutralize an amount of tuberculin capable of giving rise to reaction.

In the next article, from the *Riforma medica*, Dr. De Renzi, of Naples, gives his experience with the treatment in twenty-two cases. Like his colleagues Dr. Bruschini and Dr. Boeri, Dr. De Renzi finds that the injections do not give rise to any important unpleasant result; swelling of the lymphatic glands may betoken a favorable reaction. In general, the appetite increases and a sense of well-being sets in. In some patients the tuberculous process is brought to a standstill; in others progressive improvement shows itself. The peculiar curative action of the serum occurs gradually and unnoticeably; it is most striking when compared with that of other measures intended for the cure of the disease. The cure can not be hastened by increasing the dose. The best results are obtained in cases of circumscribed and uncomplicated tuberculosis without much fever.

The third article shows how great a degree of pallia-

tion may be afforded even in hopeless cases. It is by Dr. Régnier, and appeared in the *Progrès médical*. One of the three cases reported was of that character, but even as the patient drifted along to the inevitable fatal termination his cough was diminished almost to the point of disappearance; the local phenomena, especially the crepitant râles, subsided; no extension of the morbid process could be detected; the sputa, from being massed and nummular, became more mucous in character; the night sweats came to an end; and the appetite and strength returned. Such efficiency of the serum in the palliative treatment of hopeless cases is not only a boon in itself, but a sure token apparently of the curative power of the treatment in cases in which, given a cessation of the progress of the tuberculous process, the lungs have not been so seriously injured that their repair is unattainable. Surely this is a substantial advance in the struggle against pulmonary consumption.

SILVER AS A THERAPEUTIC AGENT.

It is not long since we gave our readers an account of the experience of Dr. B. Crédé, of Dresden, in the use of silver and some of its salts in the treatment of wounds and of certain morbid processes. In a recent communication (*Centralblatt für Chirurgie*, October 24, 1896) he gives his further observation of the employment of silver, including that of about nineteen hundred cases, which, he says, quite substantiates his earlier conclusions.

He sums up his method of treating wounds as follows: Whether they are to be closed or to remain open, he covers them with silver gauze and dusts itrol (silver citrate) over any punctures that may be found. This gauze, containing metallic silver in a state of the very finest division, he says is absolutely unirritating and may be sterilized, but that he does not consider necessary. It becomes antiseptic as soon as morbid germs attack the wound, for the lactic acid which the germs produce unites with the silver to form the lactate, which is an energetic antiseptic. He cleanses the wounds with soap and water and a brush, applies ether to the surrounding parts, and rinses the whole with boiled water. If portions of tissue are almost completely separated, he removes them, but leaves large undermined flaps alone, also all fissures, opened joints, etc., and powders the surface of the wound lightly with itrol. If inflammation has already set in, he employs a water dressing for a few days; if not, he applies the silver gauze, lays cotton over it, and puts the injured limb at rest in a secure attitude. If the dressing becomes partially soiled by the oozing of blood and serum, he seeks

to promote drying by putting on more cotton, more for the sake of appearances than for anything else. If the discharge is very great, he renews the upper layers of the dressing. He does not dread the access of air to the wound, so great is his trust in the protection afforded against infection. If morbid germs have been forced into the recesses of the wound, they can not give rise to anything worse than an abscess.

For gargles, mouth-washes, and the like, actol or itrol may be used in the proportion of 1 to 4,000 or from that down to 8,000, although stronger solutions do not irritate. These silver salts stain the skin, but the stains are readily removed with a solution of one part of corrosive sublimate and twenty-five parts of sodium chloride in two thousand parts of water. In surgical infections, actol may be used subcutaneously. In erysipelas, the amount to be given daily ranges from seven to twenty-two grains, but the solution should not be stronger than one to two hundred, otherwise coagula of albumin will form and stop the remedy from getting into the circulation.

### MINOR PARAGRAPHS.

#### ARTIFICIAL SERUM AS A HÆMOSTATIC.

DR. LE CLERC (*Revue internationale de médecine et de chirurgie*, 1896, No. 11; *Centralblatt für Gynäkologie*, November 7, 1896) relates the case of a woman who lost a great deal of blood during her third pregnancy and with its termination in abortion. Neither curetting of the uterus with subsequent tamponing nor the use of drugs served to check the hæmorrhage, and her condition became critical, as was shown by her shallow breathing and the imperceptibility of her pulse. In this emergency the author injected about forty cubic centimetres of artificial serum (a solution of a drachm and a half of sodium chloride and two drachms of sodium sulphate in a quart of distilled water) into the basilic vein and, in addition, rather more than eight ounces of the same solution under the skin of the thigh. The activity of the heart and of the respiration was soon regained, the uterine hæmorrhage ceased definitively, and the patient recovered with striking rapidity. The author accounts for the hæmostatic effect of the injections by their stimulant action on the vasoconstrictor nerves.

#### ITEMS.

**The Brooklyn Medical Society.**—At the last monthly meeting, on Friday evening, the 26th inst., the following papers were to be read: Remarks on the Therapeutics of Gastric Diseases, by Dr. Jacob Fuhs, and The Results obtained by Double Tenotomy in a Case of Talipes Equinus, by Dr. F. C. Winter.

**Changes of Address.**—Dr. Russell Bellamy, to No. 152 West Fifty-seventh Street, New York; Dr. F. Tilden Brown (temporarily), to No. 22 East Fifty-sixth Street, New York; Dr. John Milton Holt, to No. 65 South Tenth Street, Brooklyn; Dr. A. M. Lesser, to No. 19 East Sixty-first Street, New York.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 17, 1896:

DISEASES.	Week ending Nov. 10.		Week ending Nov. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	22	2	36	6
Scarlet fever.....	91	4	77	6
Cerebro-spinal meningitis....	1	1	1	0
Measles.....	62	3	63	3
Diphtheria.....	213	27	185	28
Tuberculosis.....	161	88	110	84

**The Roosevelt Hospital.**—A training school for nurses has been opened, and the pupils are to be quartered on the third and fourth floors of a new building called the private patients' pavilion.

**The New York Society for the Relief of Widows and Orphans of Medical Men** held its annual meeting and election on Wednesday evening, November 18th.

**The Society of Medical Jurisprudence.**—At the last regular meeting, on Monday evening, the 9th inst., Mr. Charles Bulkley Hubbell was to read a paper entitled The Obligation of the State in its Relation to the Health of the Child.

**The Death of Professor Lewin, of Berlin,** is announced to have taken place on November 2d. He was seventy-six years old.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 14, 1896:*

LA MOTTE, H., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Virginia, and ordered to treatment at the Naval Hospital, Philadelphia.

MARSTELLER, E. H., Surgeon. Detached from the United States Steamer St. Mary's, ordered home, and placed on waiting orders.

WHITING, R., Surgeon. Ordered to the United States Steamer St. Mary's.

#### Society Meetings for the Coming Week:

MONDAY, November 23d: Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, November 24th: New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, November 25th: New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Tompkins (semiannual), N. Y.; Auburn, N. Y., City Medical Association; Philadelphia County Medical Society; Berkshire, Massachusetts, District Medical Society (Pittsfield).

THURSDAY, November 26th: New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopaedic Society; New York Celtic Medical Society; Brooklyn Pathological Society; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, November 27th: New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society.

SATURDAY, November 28th: New York Medical and Surgical Society (private); St. Louis Medical Society.

## OBITUARY NOTES.

**Thomas H. Burchard, M.D.**, who died at his home, in New York, on Saturday, November 14th, in the forty-eighth year of his age, had been in ill health for a number of months, but in the summer it was supposed that he had almost wholly recovered, and this supposition seemed amply warranted by his robust appearance and his activity and cheerfulness. The hopes for him entertained by his friends were, however, destined not to be realized. The end came somewhat suddenly. Dr. Burchard seemed the embodiment of manly energy, with an unusual capacity for work, and appeared equipped for a long life of activity. He was a practitioner of more than ordinary acquirements, and, more than that, he was an open-hearted, generous, lovable man, one that will be sadly missed by those who knew him.

**Gustavus A. Sabine, M.D.**—Until within a short time before his death, at an advanced age, Dr. Sabine was a busy practitioner in New York, known and esteemed by almost every member of the medical profession here. He was a physician of much acumen and a genial man. He was an Englishman by birth, but almost the whole of his professional life was spent in New York. He did a general practice, but made obstetrics a prominent part of his work. In the early part of his career in New York he was connected with the late Dr. Willard Parker, and it is said that he first suggested to that eminent surgeon the feasibility of an operation for perityphlitic abscess. He was the father of the late Dr. Thomas T. Sabine. Dr. Sabine's memory will long be cherished in this community.

## Births, Marriages, and Deaths.

### Born.

**JOHNSON.**—In Augusta, Maine, on Tuesday, November 3d, to Dr. and Mrs. Wellington Johnson, a son.

### Married.

**BALDWIN—SHEPARD.**—In Newark, New Jersey, on Wednesday, November 11th, Dr. Edward Hill Baldwin and Miss Rosalind Grover Shepard.

**BLUMER—HENICAN.**—In New Orleans, on Thursday, November 12th, Dr. William Blumer, of Pensacola, Florida, and Miss Margaret Henican.

**CHITTERLING—PAGE.**—In New York, on Wednesday, November 11th, Dr. Nelson M. Chitterling, of Glen Ridge, New Jersey, and Miss Jennie Page.

**COMSTOCK—PORTER.**—In Montclair, New Jersey, on Thursday, November 12th, Dr. Seth Cook Comstock, of New York, and Miss Bertha Treadwell Porter.

**CONGDON—RAYMOND.**—In Brooklyn, on Thursday, November 12th, Mr. Ernest Wilfrid Congdon and Miss Mamie Gardiner Raymond, daughter of Dr. Joseph H. Raymond.

**KEELS—REMBERT.**—In Hagood, South Carolina, on Wednesday, November 11th, Mr. Ezekiel Keels and Miss Helen Rembert, daughter of Dr. Edward J. Rembert, of Rembert, South Carolina.

**MAYBANK—RHETT.**—In Charleston, South Carolina, on Thursday, November 5th, Dr. Joseph Maybank and Miss Harriet Lowndes Rhett.

**SHRADY—MOORE.**—In New York, on Wednesday, November 18th, Mr. Henry Merwin Shradly, son of Dr. George F. Shradly, and Miss Harrie Elbridge Moore.

**UNDERHILL—LELLMAN.**—In New York, on Wednesday, November 18th, Mr. Frederick Edgar Underhill and Miss Hildegard E. Lellman, daughter of Dr. Carl H. Lellman.

**WENDE—TUCKER.**—In Buffalo, on Monday, November 16th, Dr. Grover William Wendé and Miss Mary Graham Tucker.

### Died.

**ADAMS.**—In Brunswick, Maine, on Saturday, October 3d, Dr. M. Vinton Adams.

**BEEBE.**—In Alford, Massachusetts, on Tuesday, October 20th, Dr. Richard Beebe.

**BURCHARD.**—In New York, on Saturday, November 14th, Dr. Thomas H. Burchard, in the forty-eighth year of his age.

**GRAY.**—In Bastrop, Louisiana, on Monday, November 9th, Dr. Frederick C. Gray, aged seventy-three years.

**HITCHCOCK.**—In Rockland, Maine, on Monday, October 26th, Dr. Francis E. Hitchcock, aged forty-nine years.

**HOLYOKE.**—In Boston, on Friday, November 6th, Dr. William Cooke Holyoke, aged fifty-four years.

**LAMBREMONT.**—In Convent, Louisiana, on Wednesday, November 11th, Dr. P. S. Lambremont.

**McLAURIN.**—In Shreveport, Louisiana, on Thursday, November 12th, Dr. Duncan McLaurin.

**NOTT.**—In Beville, Texas, on Friday, November 13th, Dr. Henry J. Nott, aged sixty-nine years.

**O'BRIEN.**—In Troy, N. Y., on Saturday, November 14th, Dr. Francis J. O'Brien, in the thirty-ninth year of his age.

**OLIVER.**—In Ruston, Alabama, on Tuesday, November 10th, Mrs. Jessie A. Oliver, wife of Dr. Christopher C. Oliver, of Shelby, Alabama.

**SABINE.**—In New York, on Tuesday, November 17th, Dr. Gustavus A. Sabine, in the eighty-eighth year of his age.

**WELLINGTON.**—In Cambridgeport, Massachusetts, on Tuesday, October 27th, Dr. William W. Wellington, in the eighty-third year of his age.

## Letters to the Editor.

### PARALYSIS FROM MALARIAL FEVER.

DIRIAMBA, NICARAGUA, September 29, 1896.

To the Editor of the New York Medical Journal:

SIR: I wish to report a case of paralysis from malarial fever. The patient is a little girl, aged three years, whose previous history is good. Her parents have been healthy, never suffered from syphilis or rheumatism, and there has never been a case of paralysis among their near relatives.

She was taken with remittent fever, for the relief of which emetics and purges were the only drugs administered. On the twentieth day of her illness her mother was surprised to find her motionless in bed and unable to speak, in which state she remained for about twelve days, when she began to move the left arm quite freely; subsequently the fever disappeared and the little patient began to improve without any medical treatment, and continued to improve until about the sixteenth day, when she was brought to me with the following symptoms:

She could not stand, although while sitting down she could move the limbs around. She bore an idiotic expression and there was slight facial paralysis of the right side only, with aphasia; the left arm and hand were very weak in all their movements; the right ones more so, with complete paralysis of the extensores carpi et digitorum. The patellar reflexes were much diminished, and sensation was unaltered all over the body. There was no manifest visceral derangement.

She was put on the use of quinine and strychnine, and has been under that treatment for three weeks. At present she comes walking, with a bright expression, making efforts, though yet futile, to articulate words. Her left arm performs normal movements, the facial paralysis has disappeared, and the extensors of the right hand (previously paralyzed) are beginning to resume their function.

Judging from her rapid uninterrupted progress, I



think we may prognosticate a complete cure, within a month, by an antiperiodic treatment.

J. Y. GONZÁLEZ, M. D.

#### UNDUE HASTE TO EMBALM THE DEAD.

712 MADISON AVENUE, November 16, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In the *Journal* of November 14th you have given your approval to certain changes in the form of death certificates in New York city which are proposed by President Wilson and Commissioner Fowler. Permit me to call attention to a very important item which should be incorporated in that part which goes under the heading "To undertakers."

I refer to the very hasty and quite unwarrantable use of embalming fluid and processes before the certificate of death has been made out by the attending physician, and even before he has been called upon to pronounce the patient dead. Twice within the year this hasty work has interfered with post-mortems, which I very much desired and which the relatives did not oppose. It is quite evident, too, that much more serious harm might arise in a case where there had arisen a suspicion of poisoning.

It seems to me, therefore, that undertakers should be especially enjoined not to embalm or take any steps incompatible with life until the physician has made out his certificate. It might be well also to make a time limit, before which, and after supposed death, no such measures should be taken.

I think you will be doing the profession a favor and forwarding the ends of justice if you will call the attention of the health authorities to this matter.

S. S. JONES, M. D.

#### ANTIPYRINE AND CALOMEL.

238 EAST 105TH STREET, NEW YORK, November 9, 1896.

To the Editor of the *New York Medical Journal*:

SIR: In glancing over the column of Therapeutic Notes in your latest issue of the *Journal*, my attention was attracted to the article entitled *Incompatibility of Antipyrine and Calomel*. In this Dr. H. Werner is quoted as cautioning the medical fraternity against the simultaneous exhibition of these drugs, urging as a reason the dangerously large amount of bichloride engendered by the chemical interaction of these medicaments. To the latter assertion, in all probability based on laboratory experiment, certainly not on clinical observation, practical experience with the remedies in question enables me to take most emphatic exception.

During the past three years I have frequently and repeatedly prescribed these drugs, to be administered together, without the slightest untoward effect. On the contrary, the results obtained have been decidedly gratifying, the temperature yielding more promptly to this than to any antipyretic remedy in our armamentarium, with a corresponding amelioration in the condition. A fact worthy of note in this connection is that the reduction is of a more permanent character than that following the employment of any of the coal-tar products alone.

This combination—i. e., antipyrine and calomel—I have used in a rather extended list of ailments, mainly, however, in children ranging from six months to three years. The doses prescribed have been from half a grain to three grains of antipyrine and from a twelfth

to a quarter of a grain of calomel given every two hours, sugar of milk acting as a corrective and excipient.

My observation of the effect produced by this combination on these susceptible organisms—in which the toxic effect of the bichloride would be rapidly evinced, were the latter present—leads me to conclude that neither drug recognizes, so to speak, the presence of the other in the economy. The antipyrine produces its usual antipyretic effect, accompanied by a sedative action on the centres of the brain and spinal cord, while the mild chloride supplements this action by eliminating effete materials from the circulating fluid, and through stimulation of the hepatic functions fortifies the system against the onslaughts of the disease, at the same time reducing to a minimum the possible depressing effects of the drug with which it is associated.

Ergo, antipyrine and calomel, prescribed simultaneously in proper medicinal doses, constitute, to my mind, a perfectly safe, efficient, even an ideal febrifuge.

BERNARD S. ROSENAU, M. D.

#### Proceedings of Societies.

##### MEDICAL SOCIETY OF LONDON.

Meeting of May 11, 1896.

The President, Sir CRICHTON BROWNE, M. D., F. R. S., in the Chair.

**The Connection of Intestinal Autotoxis with Certain Common Forms of Insanity.**—DR. ALLAN McLANE HAMILTON, of New York, read a paper with this title. (See pages 576 and 643.)

THE PRESIDENT congratulated the society upon the presence of so distinguished an authority as the author, a courtesy which he hoped would be reciprocated by the reading of a paper by an Englishman before the Academy of Medicine of New York at some future date. He recalled the excellent work done by the author during the last twenty years in the department of medicine with which he himself was most associated. The paper opened out new and original ground, though he supposed the author himself would admit that much of it was speculative. Many of his conclusions, indeed, could not at present be implicitly received and accepted, and autotoxis would not drive out of the field all the older methods of dealing with this class of cases, though it might prove a valuable help in treatment. He recalled the fact that Dr. Lauder Brunton had pointed out the resemblance which exists between the languor associated with indigestion and the effects of curare poisoning, and that he had suggested that these symptoms might be due to the absorption of poisonous matter from the intestines, probably of the nature of ptomaines. It was only necessary to suppose an excessive production of these ptomaines or their imperfect destruction by the liver, which, under ordinary circumstances, prevented them reaching the circulation, to understand that this failure to protect might have far-reaching consequences. They had only to imagine this to see that in the long run a condition might be engendered which might culminate in melancholia with stupor, evidently strictly analogous to the autotoxis to which the author had invited their attention. That the production of these bodies in the intestine might be enormously increased in certain states had been clearly demonstrated, and he himself was inclined to believe that their presence in excess

in cases of intestinal catarrh might readily give rise to the mental consequences associated with this condition. He pointed out that there was a well-known type of hypochondriacal melancholia associated with catarrh of the transverse and ascending colon in which the mental characteristics were out of proportion with the lesions, cases in which there was no family history, and the symptoms yielded readily to a visit to Carlsbad or Marienbad. He had often thought that the symptoms in these cases might be due to excessive production of ptomaines in the intestine or to their imperfect destruction by the diseased liver. The possibility of putrefactive changes in the intestine and the consequent production of ptomaines were, of course, very great and very varied. He mentioned that, according to Mr. J. Murray, of the British Museum, there were 128 genera of microbes and 169 fungi which thrived and flourished in faecal matter; many of them were peculiar to particular kinds of faeces, 45 to the horse, 35 to the dog, 28 were peculiar to birds, and 21 to the faeces of man. It was clear, therefore, that faeces afforded a very favorable and congenial nidus for fungoid and bacterial growth, and any change in the physical contents of the lower bowel or any change in their environment interfering with the fungoid struggle for existence, by giving advantage to one variety, might allow of the production of an excessive amount of certain poisons, followed by symptoms of poisoning. He asked whether the brain itself might not provide poisons, seeing that poisonous ptomaines had been proved to develop in cerebral matter after death, and it was possible that under certain conditions of malnutrition similar products might be produced at an earlier period. Muscles were known to develop various alkaloids during life which might, under particular circumstances, even determine a fatal effect. It was also worthy of consideration whether the epileptiform seizures which checkered the course of the later stages of general paralysis might not be due to autotoxis. There was a gradual degradation of nutrition and possibly incipient decomposition of albuminous tissues which might produce substances acting as poisons on the nerve cells, producing a special train of symptoms along with a rise of temperature. Selbing had shown that ptomaine was found in the general paralytic and in pneumonia, and one was familiar with the fact that washing out of the lower bowel was often the means of arresting the epileptiform attacks which characterized the later stages of general paralysis. He supposed the author would admit that the subject was at present better fitted for the laboratory than for academical discussion. His title, indeed, was very comprehensive, for it might be made to include all forms of moral and intellectual auto-intoxication, a phenomenon which resulted from undue egotism and the concentration of the energies on selfish or degrading objects. Ideal microbes and emotional ptomaines would lead them too far afield, and he would, therefore, not enter upon their discussion.

Dr. HAIG said it was now nearly eight years since he had first called attention to the presence of an excess of uric acid in the urine of cases of mental depression and of epileptic convulsions, etc., and he was still of the opinion that the symptoms in such diseases, now referred by some to intestinal putrefaction, were really due to the presence of an excess of uric acid in the blood. The uric acid altered the circulation throughout the whole body; the altered circulation in the brain accounted for the mental symptoms, and that in the stomach and intestines caused putrefaction to take the place

of digestion. He had been much interested in what the author had said about the beneficial effects obtained by the use of calomel, because calomel cleared the blood of uric acid. It would, therefore, tend to prevent the modification of the intestinal circulation, which was the cause of the putrefaction. Salicylate of sodium also cleared the blood of uric acid and so prevented its exerting its usual effects. In one of the cases on which the author had laid considerable stress, he noticed that the patient got better when the regimen was changed, but they had not only changed the diet but given antiseptics and washed out the intestines as well. He had laid great stress upon these things but had said little about the diet. His own idea was that they gave far too much nitrogenous food, and when this was discontinued and the introduction of uric acid put a stop to, the patient got well. Many patients suffering from mental disease had been cured simply by diet, without any attention being paid to intestinal putrefaction. The points about uric acid which he wished specially to bring to the notice of those interested in mental diseases were the well-marked clinical signs of its excess in the blood—viz., high blood pressure and scanty urine. In some of the author's cases he had noticed scanty urine, and this, no doubt, meant an abundance of uric acid in the blood. If they controlled that either by diet or by drugs they would control the circulation and the mental disease.

Dr. ANDRIEZEN said there was no doubt that one source of the poisons which generated insanity was inside the body during life (poisons of endogenous origin). From bacteriological study we knew that actual toxins could be obtained from the cultures of various pathogenic bacilli—such as those of cholera, typhoid, tetanus, etc., which, injected into the body of man or animals, produced the special and characteristic phenomena of the disease in question (Koch, Pouchet, Brieger, and others' researches). Referring to the intestinal poisons arising from constipation, it was well known that in those accustomed to a *daily* evacuation of their bowels a comparative slight delay (a few hours to one day) was sufficient to bring about headache and depression of spirits, which immediately passed off when the bowels were relieved. The mere retention of faecal matter, even for a few hours, permitted of the passage of a certain quantity of poison into the blood. He found it difficult to explain this circumstance on the hypothesis of uric-acid formation. An excess of uric acid would doubtless also give rise to much the same effects, but the rapidity with which the effects followed mere faecal retention showed that the source of the symptoms must be referred to the intestines. It was very important also to bear in mind what Dr. Lauder Brunton had shown—viz., that a great amount of toxic matter might be produced from disorder of the stomach, as in various gastric catarrhs. Dr. Andriezen mentioned certain cases of hysteria with dilated stomach, in which washing out the stomach and giving small doses of naphthalin (five grains) had brought about a very prompt recovery. Of course, other cases of hysteria, those with a different pathogenesis, did not react to this kind of treatment. In the cases of hypochondriacal melancholia without neurotic taint or history he could bear out what the President had stated, and he believed that these belonged to much the same category as the hysteria noted above, only the changes were more extensive and severe, and the mental symptoms correspondingly increased. Toxic absorption from the gastro-intestinal tract, with or without morbid changes in the portal blood, could produce



chloroses and anæmias of various degrees, and in some cases of pernicious anæmia such poisons (different diamines) had been found in the faeces by Hunter. The sluggish movements in the gastro-intestinal tract and its lowered vitality in melancholia favored the development of ptomaine-producing micro-organisms. Such cases showed an increase of the aromatic sulphates in the urine—a good index of the amount of intestinal putrefaction going on. In epilepsy and in general paralysis the accumulation of such toxins in the blood favored and brought on convulsive attacks. The tendency of chronic Bright's disease to intensify existing symptoms of toxæmia and even to favor acute convulsions (*i. e.*, poisoning of the cerebral centres), as in pregnant women, was pointed out, and the importance of it in the clinical course of certain insanities emphasized. He was unable to agree entirely with Dr. Hamilton, that nearly all the rapidly developing manias and insanities, with hallucinations or acute mental confusion, were of auto-toxic origin. In many such cases quite other and adequate causes could be easily ascertained; though errors of diet and digestion, neglect of the bowels, and consequent auto-intoxication from the intestines, might play a minor part. He was chiefly impressed with the frequency with which such autotoxis might occur, and thus aggravate the symptoms in *already established* insanities, such as general paralytic, epileptic, alcoholic, and slowly developing delusional insanity. The clinical phenomena in these cases were a slight subacute delirium with restlessness, the patient stumbling and fumbling about in his room, with insomnia, which did not react to the usual sedatives and hypnotics, and where the temperature was slightly raised, the tongue furred, the breath offensive, and the skin and flesh peculiarly liable to undue markings like bruising, even from mere restlessness and the pressure of garments alone. Where he had examined the urines in such cases (about nine or ten cases) he had noticed considerable excess of indican, as compared with the same case after such a delirious episode in the course of the insanity was over. Such cases reacted well to brisk purgation and enemata with a predominantly farinaceous and milk diet: calomel was excellent for the former, and it could with advantage be administered with a capsule of naphthol. Personally he had great faith also in capsules containing pure carbolic acid, given between meals if gastric fermentation co-existed. He referred to an important class—what he would call a diathetic class—of the insanities which the text-books as yet had not recognized. He did not refer to the so-called gouty or rheumatismal insanities, but to those associated with and growing in the soil of myxœdema and acromegaly, with a very constant and distinct physiognomy of their own, and with a pathogenesis that could be harmonized and well explained by the morbid changes present, changes which lay at the root of the mental as well as the bodily conditions. In the one case (myxœdema), a morbid process starting from the thyroid gland affected the whole capacity of the blood in regard to its power of taking up oxygen from the air. On examining the blood with the mercurial pump it was found that its gases O and CO<sub>2</sub> were much diminished, and by placing the individual in the apparatus for examining the gases of respiration, it was found out that he took in but little oxygen and correspondingly gave out but little CO<sub>2</sub> during life. Thus he suffered from weakness and dullness, from subnormal temperature, and from a tendency to the accumulation of incompletely oxidized bodies (fat, etc.) in his

tissues. Similarly in the insanity of acromegaly pituitary feeding gave corresponding benefit, and for those who cared to follow the function of this gland and its special relation to the brain and nervous system he would refer to his paper on the pituitary, published in the *British Medical Journal*, January, 1894. Finally, as to toxins formed in the central nervous organs, this possibility must not be overlooked. Toxines may form in muscle and gland from the chemical products generated during the activity of such tissues—*e. g.*, CO<sub>2</sub>, lactic acid, creatine, etc. Now, in the central nervous system there was a very complex lymph apparatus for the absorption, carrying off, and elimination of these metabolic waste products. The whole nervous tissue of brain and spinal cord and the sheaths of the cranial and spinal nerves were perforated by a system of lymph channels, which in the brain cortex itself formed a special prolongation around each of the larger nerve cells (pericellular lymph sacs), and which had peculiar relationships with the adventitial sheaths of the pia-arachnoid and intracerebral blood-vessels. In the general paralytic and in the chronic alcoholic these lymphatic structures were affected in a special and peculiar way, producing in places blockages of the lymph streams and overgrowth of these lymphatic (lymph-secreting and lymph-absorbing) cells, which, according to their local incidence and preponderance, affected different spots, centres, and tracts of the central nervous system. An associated paresis of the muscular coats of the blood-vessels followed by fusiform and ampullary dilatations of the vascular and lymphatic channels also coexisted and added to the complexity of the morbid involvement, and this apart from changes which took place in the dynamic connections of nerve cells (dynamic changes) and in the internal nutrition of the cells, bodies and protoplasm (nutritive changes). The products of metabolism of the nerve cells would thus be in places retained in the dilated or obstructed sacs and lymphatic channels, producing from time to time—*i. e.*, continuously or cumulatively—various symptoms of toxins; the toxine being in such cases the unescaped, uneliminated products of cell activity. He concluded by stating that more often than not toxic agencies played a part in the *course of an insanity which was already established*; in a small number they played a *truly causal* part, but that in any case they should be vigorously treated when indications of their presence existed, the treatment being lavage or enemata, purgation with calomel, and antiseptic drugs taken internally; while to aid the convalescent stage and its associated anæmia iron, extract of bone marrow, etc., were indicated.

Dr. HARE said that, in listening to the paper, he had been struck by the fact of the large amount of knowledge the ancients possessed on the subject-matter discussed by the author. The central point insisted upon was that of self-poisoning in relation to mental conditions; in other words, the connection between such states of the mind and of the nervous system and the processes of disintegration and disease within the body. But the physicians of two thousand years ago were well acquainted with these facts, and they used such terms as "melancholia" and "hypocondriasis," "black bile," and "under the cartilages," showing that the Greeks well knew the relation between mental disturbances and affections of the liver. But the physicians of the present day had demonstrated what was previously only known as the result of clinical observation. There was nothing of which he was more sure than this self-poison-



ing, not only in insanity, but in many other conditions; and doubtless they would sadly neglect the treatment of many cases of insanity if they did not pay attention to the condition of the digestive organs. He was glad to hear the author insist upon the value of calomel and purgatives.

Dr. THEODORE WILLIAMS observed that in this country one ought not to suffer so much from mental and other diseases due to defective excretion, because great attention was usually paid to regularity of bowels and the proper function of the skin. On this ground, if the author's hypotheses were correct, such mental disturbances ought to be much more common in countries where it was quite common for persons to have an action of the bowels only once a week, and then only from purgation, and it was well known that the skin was not so well looked after there as here.

Dr. BOWER suggested that probably the intestinal trouble was more often the result of the nervous trouble than the cause. In respect of alcoholic insanity, it was said that the neuroses made the patient drink, and the drink reacted on the neuroses. He thought that washing out the stomach and intestines was of the greatest possible advantage.

Dr. FORBES WINSLOW observed that the subject was a very difficult one unless one had practical experience in a large institution. Patients in private practice did not afford sufficient opportunities to justify them in coming to any conclusion on the subject. As, however, the question was being raised in the House of Commons as to the increase in the prevalence of insanity and its causes, it was a great thing to have a paper like the one to which they had just listened. The mention of the influence of uric acid in the system reminded him of a case of a man suffering from gout who had melancholia with monomania. After a time the presence of a stone in the bladder was made out, and on its removal all his delusions disappeared.

Dr. HAMILTON, in replying, thanked the president for his kind words of welcome and wished to say that his paper was simply suggestive of the vast possibilities of the subject. He had recognized the conditions so clearly enumerated by Sir Crichton Browne, which all played an important part in the causation of mental disease, and he proposed at a future time to publish further details of his investigations. The speaker was disposed to regard the conclusion of Dr. Haig, whose views of gout are so well known, as extreme in the present instance, and while he recognized the fact that increased uric-acid excretion was found in many nervous disorders, he regarded these phenomena as the result of intestinal derangement such as he, the speaker, had demonstrated, rather than the initial cause, and he referred to Dr. Haig's own writings in regard to the transferral of cerebral and joint symptoms as an illustration. While he recognized the importance of the study of insanities associated with myxedema and acromegaly, and the formation of certain alkaloids in the nervous system, he did not feel that the scope of the paper permitted him to go into this question, which seemed to have been so diligently studied by Dr. Andriezen. As to the query of his friend, Dr. Theodore Williams, regarding the antipathy of the French to water and to the carelessness regarding the ordinary functions of Nature and their relation with Gallie insanity as compared with the better habits of their Anglo-Saxon neighbors, he had his own views. In conclusion, while disclaiming any dogmatism, he still would insist that in most cases of suddenly developing

acute mania, and especially such forms as the puerperal and periodic varieties, the existence of intestinal auto-toxis could be very often found.

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in St. Paul on Tuesday, Wednesday, Thursday, and Friday, September 15, 16, 17, and 18, 1896.*

The President, Dr. HENRY O. WALKER, of Detroit, in the Chair.

(Continued from page 464.)

**Reinfection in Consumption.**—Dr. JOSEPH MUIR, of New York, said that statistics showed that a first attack was not usually fatal, and death was often found to be due to other causes. Primary infection was not usually due to inherited tendencies, but external conditions played a most important part. Consumption was best treated among the rich; frequently, indeed, a permanent cure was effected in this class of patients, so for evident reasons those who were poor should be given special attention. Patients who had been cured must not be allowed to return to their former environment. Redevelopment was inconsistent with clinical experience. Change of air and outdoor exercise and labor hardened and refreshed the tissues, and the respiratory impurities of former environment were no longer present. Reinfection might be prevented by thorough disinfection of the patient and his surroundings and by destruction of the sputum. This protected the patient against himself.

Dr. H. J. O'BRIEN, of St. Paul, was satisfied that there were many cases of reinfection. He stated that he had sent patients away, and in six months they would come back to die; by staying away they would sometimes escape contagion and reinfection.

Dr. J. A. LARRABEE, of Louisville, said that he had long believed that if a consumptive could have these conveniences and this care in the beginning, along with a forced feeding, in many cases we could check or entirely abort the disease. The most terrible mistake was made in sending subjects away for treatment. Home was best, no matter where that home was. Improve it as much as possible, but leave the patients among friends. He thought there was much in the idea of reinfection.

Dr. R. H. BABCOCK, of Chicago, emphasized in the strongest possible terms the idea that, if patients were sent away and they improved, they must stay away permanently.

**The Indications for and Demonstrations of Removal of the Gasserian Ganglion.**—Dr. J. B. MURPHY, of Chicago, demonstrated the technics of the operation on a cadaver head. The operation might seem heroic, but heroic measures were necessary in a condition so severe as trigeminal or facial neuralgia. Patients would submit to anything in the hope of relief. This method of operating was simpler and resulted in less deformity, as well as being more certain in its results, than any other yet suggested. Dr. Murphy had always suggested some conditional treatment, especially that with castor oil, before resorting to so heroic and serious a measure as this operation. The trouble, however, with all such treatments was that they did not give a permanent relief. The castor-oil treatment had given temporary relief in several cases.

Dr. A. J. OCHSNER, of Chicago, thought that the author had given a most beautiful demonstration of a difficult operation, one which, in his hands, no doubt would give a large measure of success. He himself hesitated to operate in these cases of facial neuralgia, for the very fact that they were necessarily of a serious nature. He had recently had some experience in these cases in the use of castor oil. He had given this remedy in half-ounce doses twice daily for ten days or two weeks at a time, and to his surprise it had thus far proved a most excellent remedy. As to whether the results would be permanent he could not say, but no case had yet returned to its former severity. He advised repeating the castor oil whenever there were indications of a returning attack.

#### Electro-diagnosis and Electro-therapeutics Simplified.

—Dr. HUGH T. PATRICK, of Chicago, read a paper on this subject, in which he stated that electro-diagnosis was limited to the affirmation or denial of a lesion of the lower neuron; meaning one of the motor cells in the spinal cord, or of the nerve fibre, the peripheral nerves springing from those cells. A lesion of this neuron caused the reaction of degeneration, and this, stripped of all unnecessary technicalities, might be recognized by two variations from the normal—namely, a loss or very considerable diminution of faradaic contractions, and the slow, wormlike contraction of the muscles to interruption of the galvanic current.

In the electro-therapeutics of organic disease of the nervous system, applications of electricity through the brain might be entirely discarded as useless. Electricity through the spinal cord was little better. In diseases of the peripheral nerves it probably hastened recovery, and that current was to be chosen which the better caused muscular contraction.

In functional nervous disease electricity was of more practical value than in organic affections, but it was almost impossible to determine what proportion of this good effect was due to mental impression—to suggestion.

The galvanic current was chosen for facial neuralgia, costal neuralgia, and sciatica; the faradaic for lumbago, hysterical anesthesia, paralysis, and pain; the galvanic for exophthalmic goitre and sometimes for neurasthenic headache and backache. For facial spasms, tic, spasmodic torticollis, tremor, and chorea, electricity is useful aside from the mental effect.

**A New Method of Fastening the Round Ligaments in Alexander's Operation, with Little Disturbance of their Anatomical Relations.**—Dr. J. FRANK, of Chicago, stated, in a paper on this subject, that an incision an inch long was made midway between the anterior superior spine of the ilium and the spine of the pubes, a trifle above Poupart's ligament. The transversalis muscle was pushed back and the ligament lifted out with a blunt hook. It was drawn out until the uterus was in the correct position. No great difference was experienced if the peritoneal cavity should be opened. Usually three sutures were required to close the wound; the first one being taken as low as possible through one flap of the peritoneum, then through the round ligament itself. Instead of drawing the ligament through the fascia, as formerly practised, it was replaced in its anatomical position, beneath the transversalis muscle. By this method sloughing of the ligament was prevented. This operation was the simplest of all yet proposed for the purpose. As a suture material, kangaroo tendon had proved most satisfactory in the speaker's

experience. A pessary should be fitted before the operation, and afterward worn as long as might be deemed necessary by the surgeon.

Dr. A. J. OCHSNER, of Chicago, considered this method a great improvement in the operation, because it did away with tearing and injuring the tissues. This method left the organ in the best possible condition for recovery, with sufficient adhesions to protect the ligament from being drawn out again, yet without unnecessary adhesions. He had examined some of the author's cases and confirmed his favorable report.

**Amygdalotomy by Cautery Dissection.**—Dr. J. HOMER COULTER, of Chicago, said that no subject in surgery or medicine had been much more prolific in interest and discussion than that of the tonsil. In the past ten years over six hundred papers have been written on that subject alone. The size of the normal tonsil was still a subject of discussion with throat specialists. Some alleged that there was normally no tonsil to be seen; however, the most usual opinion was that there existed normally a collection of follicles between the pillars of the fauces protruding slightly above them. The tonsil was an almond-shaped gland, larger at one end than at the other, and somewhat flattened.

The methods usually employed for its ablation were the use of the guillotine, that of ignipuncture, that of the cold or cautery snare, and that of the knife. Each of these methods had practical objections to its use. The most important of these objections, and one which applied to all of them, was the fact that by no one of them could the entire gland be taken out. Unless this was done the part remaining would oftentimes produce as much trouble as the former condition did. Dr. Coulter proposed the following operation, which, he said, obviated this objection entirely if properly performed:

With a well-heated small galvano-cautery the pillars were dissected away from the tonsil to half of its extent. The gland was then, with a suitable forceps, drawn well out and thoroughly and entirely dissected out to about half of its extent. This portion was then cut off and the surface treated with a strong solution of silver nitrate. In a week or ten days the other portion of the tonsil was removed in the same manner. This operation would give cosmetic as well as practical results unobtainable by any other process yet suggested.

Dr. H. W. LOEB, of St. Louis, stated that he had been very much interested in the presentation of this new method of amygdalotomy. He believed most decidedly in what the author had said about the lack of skill of many who attempted to remove the tonsils by the ordinary method. Very often they would take a piece off and by showing it make the patient or his friends imagine they had performed amygdalotomy. If, said Dr. Loeb, the operator could see that patient five or six years later suffering from the same affections, to which the remainder of the tonsil became a subject, he would not be so well pleased. Removing a part could only improve the symptoms then present, and it did not signify that the tonsil would remain quiescent. It was unfortunate that so valuable a method was not applicable to young children; for adults it could not be improved upon. The speaker had been practising this method with some modifications for some years. Instead of performing so much dissection, it had been his plan to remove as much of the tissue as he could get in an electric snare. This was repeated as often as might be necessary to remove all the glandular substance. He thought the method caused less



soreness and less pain than Dr. Coulter's, and in many cases, particularly in children, the results would be just as satisfactory. Furthermore, his own method was applicable in case of young children.

This method of dissection, he said, was one that must commend itself in a great number of cases as being the very best possible. He most heartily agreed with the author that removal of the whole tonsil was an absolute requisite if the patient was to be cured. As to the voice changes suggested by some, he believed ablation of the tonsil did have a decided effect on the voice register, but he also believed it was always in the way of improvement. He stated his disbelief in the uric-acid diathesis having anything to do with amygdalitis, further than as a concomitant condition. The speaker stated that he had had the opportunity of seeing some of these cases, and that he had never seen the cosmetic results equaled.

**The Surgical Treatment of Pyloric Obstruction.**—This was the title of a paper read by Dr. W. J. MAYO, of Rochester, Minnesota. This subject, he thought, had not received the attention it demanded from American surgeons. The diagnosis of serious pyloric disease was often a matter of the greatest difficulty. He had found that the free use of strychnine for several days previous to the operation was of great value in preventing shock. The stomach should always be thoroughly washed out a few hours before the operation and nothing eaten afterward. For combating the shock, besides strychnine and dry heat, a rectal enema of a pint of hot coffee should be given. Nourishment by the stomach should not be too long withheld afterward. For twenty-four hours rectal alimentation should be used; in thirty-six hours some champagne; later, buttermilk and a gradually increasing diet.

Dr. A. F. HOUSE, of Cleveland, was opposed to the use of the Murphy button and did not consider it the ideal method, as his experience had been somewhat unsatisfactory. He believed the less foreign matter that got into the wound when the bowel was united to the stomach, the better the result. He had discarded the button for the suture method. He believed much of the success in the use of the button depended on skill in using it.

Dr. F. F. LAWRENCE, of Columbus, thought that in cases of malignant disease we could not promise more than temporary relief and perhaps prolongation of life for a brief period. The simpler the operation the better for the patient. He doubted very much if resection in cases of malignancy would give a permanent cure.

Dr. A. J. OCHSNER said that regarding the hydrochloric-acid test, he was convinced it was a most treacherous test. If we suspected carcinoma the best thing to do was to perform colostomy. In some twenty cases he had used irrigation of the stomach with decided satisfaction. In this way the patient would sometimes become well enough nourished to better stand an operation when it was desirable.

**Conditions which may simulate Organic Obstruction of the Rectum.**—Dr. THOMAS H. MANLEY, of New York, read a paper on this subject (see page 436).

Dr. I. N. LOVE, of St. Louis, said there could be no question that a majority of the diseases which afflicted human beings, male or female, were largely dependent upon constipation, and consequently upon obstruction of the rectum. Physicians were all of the opinion that a large part of the diseases of women were due to that factor. Their habits of life, their social, domestic, and

maternal duties, seriously interfered with that regularity which was so essential. The pelvis of a woman should be left to be occupied by the proper pelvic organs. A fecal accumulation was a mechanical obstruction pressing these organs out of position. He was thoroughly in sympathy with the position taken by Dr. Manley, and he thought physicians should impress the mothers and young ladies in their homes that it was not only unsafe, but unæsthetic and inartistic to retain these accumulations that should have a place in the sewers of the city. They should be made to realize that the alimentary canal was a food track in its entirety, and that waste material should be removed from the bowels. There should be no necessity for cathartics or purgatives. Happy living, right living, successful living, depended quite as much on proper elimination as on anything else.

**Submucous Linear Cauterization; a New Method for Reduction of Hypertrophies of the Conchæ.**—Dr. NORVAL H. PIERCE, of Chicago, called attention to the various methods ordinarily used for the reduction of such hypertrophies, and showed the disadvantages of each. The distinction between hypertrophy and turgescence was pointed out. The operation proposed by the author was as follows: A small incision was made in the hypertrophied membrane, then with a blunt flat probe the mucous membrane was carefully separated from the erectile tissue underneath. Then a sound, the end of which was cup-shaped, and upon which had been fused a few crystals of chromic acid, was inserted in the incision, and the track already made by the probe was thus cauterized. The advantages of this method were that there was no hæmorrhage, it was less painful than any other, and the functional activity of the mucous membrane was not in the least impaired. Patients would submit to this operation more willingly than to the burning of the cautery. The method was the simplest of any yet suggested. The reaction was usually insignificant. There was no slough. The danger of atresia was obviated.

Dr. COULTER complimented the author on the originality of his method and its various points of excellence, which were, at least theoretically, present. The main object to be attained was not only the reduction of hypertrophy, but the retention of functional activity as well. Many operators in using the cautery destroyed too much of the mucous membrane and did not go deep enough to remove or destroy any substantial amount of the tissue underneath, which in reality was the seat of the disease. He suggested the possibility of the chromic acid being left within the operative field, in which case an undesirable slough would necessarily follow.

The practice of many rhinologists of using a broad flat electrode and destroying a large amount of the mucous membrane, and not going down to the bone, was to be deplored as irrational, unscientific, and impracticable, inasmuch as by such measures they did not cure the hypertrophy, but did very materially reduce the functional capacity of the nasal mucous membrane.

Dr. W. L. BALLENGER, of Chicago, thought that the rationale of Dr. Pierce's operation was certainly an ideal one. If the hypertrophy could be removed without the destruction of any mucous membrane, little more was to be desired.

Dr. H. W. LOEB, of St. Louis, said that the operation seemed to him to be a thoroughly scientific one, if the



mucous membrane and its function could thus be preserved. He thought that antiseptis and asepis would both be necessities with this method. He asked why we could not use a platinum wire properly made and introduced in the same manner. He had seen blindness result from cauterization of the inferior turbinates, and questioned whether there was not danger in the use of the chromic acid by this method.

Dr. STUCKEY said we must determine whether it was an hypertrophy or simply a turgescence. If the latter, it might be simply an acute condition caused by some idiosyncrasy. If it was a true hypertrophy, this method would seem to be an excellent one, although it required a considerable amount of technical skill. He was becoming more and more skeptical as to the use of cocaine in the nose. There was the greatest danger of producing the cocaine habit by its use. He was able to get the same results without danger and with less systemic disturbance by the use of a harmless solution of acetanilide.

Dr. MUIR, of New York, stated, in reference to Dr. Loeb's question, that in New York the submucous cauterization with the cautery wire had been tried, but in each and every case an undesirable slough had been produced.

Dr. LOVE thought chromic acid needed to be used very carefully. It was very penetrating and must be controlled, but when controlled it was one of the kindest cauteries there were. It produced an eschar that clung close to the bone. The idea of the author that the nutrition of the hypertrophy must be cut off was a most scientific and practical one. He protested against the indiscriminate and careless use of cocaine in the nose. There were going about the country to-day hundreds of men and women who were miserable victims of the medical profession's careless use of cocaine.

(To be continued.)

## New Inventions, etc.

### A SHADE FOR THE WELSBACH LIGHT.

By WALTER F. CHAPPELL, M. D.

THE superiority of the Welsbach light for illumination of the upper air tract will be conceded by all who have used it. Without some shade the glare and brilliancy of this light are, however, somewhat unpleasant. As a condenser is unnecessary, the accompanying illustration presents a shade which the writer has used for some time, and he finds that it meets all the requirements at a minimum cost. It consists of a section of iron or aluminum tubing, nickel-plated on both sides and of sufficient diameter to fit over an ordinary (one-piece) mica chimney or standard. A rim is turned up on the lower end of the shade and rests on the supports which carry the chimney. The opening in the shade corresponds in size

and shape to the mantle of the Welsbach light, and admits of direct steady light without any side glare or reflections.



## Miscellany.

### The Action of *Viburnum Prunifolium* (Black Haw).

--In the November number of the *Edinburgh Medical Journal* Dr. Theodore Shennan remarks that the literature of *Viburnum prunifolium* is almost wholly clinical, and that it is difficult to draw conclusions as to its physiological action.

Dr. Phares, of Newtonia, Mississippi, he says, has the credit of initiating its use. His paper, published in 1866, recommended it as astringent, diuretic, tonic, and antispasmodic, but chiefly as a remedy for dysmenorrhœa and as a preventive of abortion.

Little more is heard of it until 1876, when Dr. Jenks, of Detroit, revived its use. He employed it in menorrhagia, metrorrhagia, and dysmenorrhœa with menorrhagia. He attributed a great deal of its value to the presence of a body similar to valerician acid.

Rockwell, in 1879, used it in dysmenorrhœa. He considered it was indicated in delicate, nervous women in whom pain was due to slight ante flexion, slight endotrachelitis, or partial stenosis, or where it was neuralgic in character. He classed it as anodyne, antispasmodic and tonic. The last term is very indefinite, Dr. Shennan thinks, though in one of his cases he noticed a relief of nausea or sickness which followed the administration of viburnum.

Abbot, in 1879, used it in dysmenorrhœa with great success, as also Curtis (1879) and Lyman.

Chadwick, in 1879, found it gave relief in many cases, but success was not invariable, or so brilliant as previous papers had led him to expect. Its action was similar but not superior to that of zinc valerianate.

Dr. R. L. Payne read a paper on *Viburnum prunifolium* before the Medical Society of North Carolina in 1888. This is one of the few papers which treat the subject scientifically, and describe experiments carried out on the lower animals. He refers to the literature of viburnum, and the want of definite rules for its use. He experimented with the ordinary alcoholic liquid extract; or with the solid extract rubbed up with water, with the view of getting rid of the vitiating effects of the alcohol contained in the fluid extract. He found that both had a similar effect. His results were as follows: Paralysis and loss of reflex motion, both with mechanical and with chemical stimuli. He got reactions with electrical stimuli—whether faradaic or galvanic is not stated—one pole to the spine, the other to the limb. He gave as much as half an ounce of the fluid extract to rabbits, and the amount of alcohol contained must undoubtedly have had an effect on the tracing. The author thinks that his experiments on rabbits prove this. In rabbits (the solid extract being used, rubbed up with water), the blood pressure was found to fall very rapidly after the injection of a syringe of the fluid into the jugular vein. Here, Dr. Shennan thinks, evidently no care had been taken to make the fluid neutral or slightly alkaline, and the resins, which are present in considerable quantity, were not removed before injection. Dr. Payne's tracings show a marked effect on the blood pressure, but at parts suggest, by the weakness of the heart curves, that there may have been some clotting in the cannula. There was evidently no balancing of pressure in the vessels by use of a column of mercury, and, as the blood was thus allowed to pass

for some distance into the tube leading to the recording apparatus, the tendency was for it to clot. The author states that he has found this clotting to be very troublesome in his own experiments.

Dr. Payne concluded that there was no effect on sensibility. The chief action was on motion, paralysis, loss of voluntary motion, loss of reflex power, the extent being governed entirely by the amount of the drug used. The pupils contracted in cold-blooded animals and did not change in warm-blooded animals. Muscular irritability was lost after lethal doses, but nerve conduction was lost before muscular contractility. Probably the action was chiefly on the spinal cord and its posterior columns. The heart was quick and feeble in its action, and the blood pressure lowered; in lethal doses the heart stopped before respiration.

Dr. Payne, continues the author, recommended its use in diseases with increased excitability of the motor centres—hysteria, in hystero-epilepsy, in *petit mal*; in paralysis agitans, and in the dysmenorrhœa sometimes designated as ovarian or spasmodic. He asserted that it was harmful in menorrhagia due to congestion of the portal circulation, subinvolution of the uterus, metritis, erosions of the cervix, and fibroid tumors. It was preventive of abortion and very useful in habitual abortion. It had a paralyzant action on the uterus.

Dr. J. Hinton, of Detroit, in 1889, applied it for the control of false pains, and even of labor pains. He has never observed post-partum hæmorrhage or severe after-pains when using this drug.

Parker used it for the irregularities of menstruation.

Joseph, of Landeck, in Schlesien, has an important paper on the subject. He recommends viburnum very strongly in virginal dysmenorrhœa. He used it in two cases of habitual abortion, in which he was unsuccessful; but he does not consider this a sufficient trial. Of the forms of dysmenorrhœa, that is most relieved which is brought about by mechanical obstruction—for example, congenital or acquired ante flexion, as opposed to congestive dysmenorrhœa, which is more common in married women. The amount of the flux was diminished, and sank to normal; moreover, the remedy changed the interrupted course to one more continuous. He recommends it as an antispasmodic, and not only in uterine or intestinal colic, but also in other conditions of cramp, such as of voluntary muscles.

Dr. Boal prefers viburnum to opium in many cases, as it is more easily borne and is readily retained by the stomach. It is very beneficial in spasmodic dysmenorrhœa, and gives relief when dysmenorrhœa is due to flexion or to stenosis. It relieves pain preceding and during menstruation. Even if this one action was proved, says the author, and it was able to take the place of opium or alcohol, viburnum would be very serviceable.

Blackerby used it in habitual abortion, and cites a very conclusive case. A patient of his had had six abortions. Viburnum was administered during the seventh pregnancy, which went to term and ended in the birth of a living child. The eighth pregnancy had a similar result under the same treatment.

Many other cases, says Dr. Shennan, have been related in which relief was obtained in threatening abortion after overexertion.

In regard to the indications for the use of this drug, they are as follows: 1. In *habitual abortion*, where this is not caused by syphilitic infection or by fatty placenta, good results undoubtedly seem to follow its

use. 2. In *threatening abortion*, however caused, and at any period of gestation, if the patient is treated soon enough, it seems to be very successful. 3. In *dysmenorrhœa*, if functional, spasmodic, or ovarian, or attended with menorrhagia, it often cures. If there is flexion or stenosis, it gives great relief, though, of course, it can not cure. 4. In the menorrhagias and metrorrhagia of the menopause and in the nervous disorders of that time it is very beneficial. 5. *After-pains* are so readily relieved by it that some, like Auvard, consider that its use is dangerous unless all clots are cleared out of the uterus previously. 6. It may be used in the diagnosis of *false pains*, as it speedily relieves them. 7. It is also used with success in *colicky diarrhœa* and in *dysentery*. Some even maintain that it has a curative effect on cramps of voluntary muscles.

Concerning the physiological effects on animals and man, Dr. Shennan has undertaken some experiments, from the results of which he draws the following conclusions: In mammals, warm-blooded animals, owing to the difficulty of giving a large enough dose hypodermically, there is no marked effect, except drowsiness and some lessening of motor power. If the substance is introduced into the heart directly, there is rapid lowering of blood pressure to about half the normal, with slow return to near the normal as the drug is eliminated.

Although too much reliance must not be placed on experimental results in cold-blooded animals as applicable to warm-blooded animals, including man, we may be allowed, says the author, to take something from these results and use them as probably applicable.

Thus, there are probably some diminution of reflex irritability, a quieting effect on involuntary muscle, and possibly some lowering of blood pressure, which, even though small, might afford relief in congested conditions. Then, and very important, there is the effect of the valerician or viburnic acid in neurotic and hysterical conditions.

In the *Pharmacopœia* there are many drugs capable of bringing about all these desired effects. Why, then, he asks, use *Viburnum prunifolium*? Opium is one of our sheet-anchors, but then there are dangers and inconveniences attending its use. The patient may acquire the opium habit, the constipation caused by it is very troublesome, and it is very toxic.

Viburnum has similar good effects, though not so strong. It is a good form in which to administer valerician acid. Its effect upon unstriated muscle, though not so strong as that of opium, gives the relief necessary. It has scarcely any effect in causing constipation.

Toxic effects have been noticed only with very considerable doses. Herrick has seen disturbance of vision, dryness of the mouth, and headaches; and Wilson has observed similar conditions, but these were with doses larger than are usually administered to man.

**The American Electro-therapeutic Association.**—Dr. Max Einhorn, the secretary, announces that at the sixth annual meeting of this association the following officers were elected: President, Dr. William Thomas Bishop, of Harrisburg, Pennsylvania; vice-presidents, Dr. Emil Heuel, of New York, and Dr. F. B. Bishop, of Washington; treasurer, Dr. Richard J. Nunn, of Savannah; secretary, Dr. Max Einhorn, of New York; members of the executive council, Dr. William J. Herd-



man, of Ann Arbor, Michigan; Dr. G. Betton Massey, of Philadelphia; Dr. Robert Newman and Dr. Emil Heuel, of New York; and Dr. Schavoir, of Stamford, Connecticut. The following committees were appointed by the president for the ensuing year:

*On Induction Coils and Alternators.*—Mr. A. E. Kennelly, of Philadelphia; Dr. G. Betton Massey, of Philadelphia; and Dr. D. R. Brower, of Chicago.

*On Meters.*—Dr. Caleb Brown, of Sac City, Iowa, and Dr. M. A. Cleaves and Mr. Edwin W. Hammer, of New York.

*On Motors, Constant Current Generators, and Controllers.*—Dr. William J. Herdman, of Ann Arbor, Michigan; Dr. Robert Newman, of New York; and Mr. G. R. Brown, of Brooklyn.

*On Static Machines and Condensers.*—Dr. William J. Morton, of New York; Dr. W. H. White, of Boston; and Dr. William J. Herdman, of Ann Arbor, Michigan.

*On Electrodes.*—Dr. Charles R. Dickson, of Toronto, Ontario; Dr. Lucy Hall-Brown, of Brooklyn; and Dr. John Gerin, of Auburn, N. Y.

*On Electric-light Apparatus for Diagnosis and Therapy and the Röntgen X Ray.*—Mr. J. J. Carty, of New York; Dr. F. Schavoir, of Stamford, Connecticut; and Dr. Stephen Weeks, of Portland, Maine.

The next annual meeting will be held in Harrisburg, Pennsylvania, on Tuesday, Wednesday, and Thursday, September 21, 22, and 23, 1897.

**The Treatment of Delirium Tremens with Chloride of Ammonium.**—Dr. Gilbert G. Cottam, in the November number of *Medicine*, says it is an almost universal experience that the accepted routine treatment of delirium tremens is unsatisfactory when applied at the bedside. In part this is due to the effect of alcohol itself, and perhaps more largely to the fact that inebriates habitually indulge largely in morphine, chloral, bromide, etc. In this way a tolerance for sedatives and hypnotics is established which renders these agents quite inoperative when exhibited for the purpose of subduing the delirium.

He states that in 1893, during his hospital internship, he had abundant opportunity of demonstrating the truth of the foregoing proposition. While he was casting about for a substitute his attention was drawn to chloride of ammonium, which, in moderate doses, from ten to thirty grains, will, he says, effectually overcome ordinary alcoholic intoxication in a short time. Its properties, stimulant and eliminative, led him to believe that it could be used with good effect in larger doses in the more pronounced symptoms of alcoholism.

A suitable case in which to test the remedy did not present itself until last year, when the author was called late one night to see a laboring man who had been in the habit of drinking intermittently for the previous ten years. In 1891 he was treated according to the Keeley method, which "cure" was followed by a speedy relapse. Three days before coming under the author's observation he began drinking heavily, which culminated in an attack of acute delirium for which Dr. Cottam was consulted. The patient was found in bed, dressed, and had the usual reptile hallucinations. The pulse was somewhat rapid, full, and strong, and quite typical of alcoholism. He was very restless, moving incessantly, at times starting from bed and making efforts to ascend the sides of the room. He would frequently have fallen had he not been restrained. The

history and symptoms were those of a typical case of delirium tremens.

Having some knowledge of the patient and his tolerance of drugs, Dr. Cottam began by administering a grain of morphine hypodermically. This was without the slightest effect. Several hours after the administration of the morphine, and after the symptoms had all become aggravated, he was given a drachm of chloride of ammonium. This was promptly vomited. After a short time another was given, which was retained. It acted quickly and favorably. In fifteen minutes the hallucinations of snakes and lizards had disappeared, and he had become quite rational. In forty minutes he was asleep, and it was not thought necessary to continue the administration of the drug.

It was afterward ascertained that this was the patient's third attack. He had used morphine often and in large doses for the relief of headache and insomnia following overindulgence in alcohol.

This case, says the author, may, of course, have been exceptional in the favorable action exercised by the ammonium salt on the alcoholic delirium. It is improper, he adds, to draw conclusions from a single case, but he offers these notes with the hope that they will encourage those in a position to do so to try the drug in large doses in the treatment of this troublesome affection.

**The Psychic Influence of the Night Season.**—Dr. A. B. Richardson, of the Columbus State Hospital, Ohio, contributes an interesting article on this subject to the October number of the *American Journal of Insanity*, of which the following is the substance:

The diurnal alternation of night and day is not without interest in its psychological influence upon the human race. The ebb and flow of energy that it represents is an element of vast importance in our existence. Day is the period of active energizing, night that of repose and recuperation. In the former there is a state of elevation, a natural confidence and a willingness to undertake whatever responsibility may present itself. In the latter there is just as truly a natural depression, a timidity and cowardice in confronting the obstacles in our path.

The accumulated inheritances of countless ages through this ever-recurring elevation and depression have stamped this wavelike characteristic upon every mental operation. The ebb and flow in mind activities is universal. It permeates every form of psychic energy. It gives coloring to our emotional states. It is seldom that in any individual, or at any time, we find an accurate ideal equipoise. We are either in a state of exaltation or of depression, either too confident and self-reliant, with vision too highly colored and enthusiasm too much exalted to be justified by the circumstances of our environment, or we are in the opposite condition of depression and timid cowardice, with little confidence in our powers and an undue extravagance in our estimate of the difficulties in our pathway. Even when this becomes impersonal and is crystallized into the energy of nations the same tendency is seen. One extreme of opinion almost invariably follows another. The pendulum of thought and psychic energy forever swings first to one extreme of its movement, then to the other. The world is apparently unable to calmly and deliberately maintain a correct status in opinion or practice. It is either too credulous or too suspicious, too indulgent or too intolerant, too confident in



its knowledge or too ready to find cause for criticism and disbelief. How far this oscillation between antipodal points depends upon or is influenced by the diurnal withdrawal and return of the solar influence, says Dr. Richardson, is possessed of more than merely curious interest. It is not unworthy of a few moments' time and study.

Night is the withdrawal of the light and heat of the sun. No amount and no intensity of artificial illumination will replace this withdrawal. In spite of all the artifice and invention of man, night still reigns supreme. No matter how much we may attempt it we can not turn night into day. Although we may supply light and noise and the stir and bustle of day, it is still night. The tendency toward repose and a letting down of the armored guard that the activity of day brings with it are still there.

There is an element of timidity and fear in our organization that is greatly enhanced at night, and this may largely account for our increased credulity at that time. Our belief is born of our fears. How many physicians are there, he asks, who can not bring proof of this? Many of their night calls are due to the greater uneasiness of the patient, or his parents or friends, on the approach of night. They are affrighted then at symptoms that would not alarm them during the day, and hasten to send for the physician to relieve them of the fears that night itself has seemed to bring to them. Again, in many cases of illness there is an actual exacerbation in the symptoms with the approach of night. This is notably so in children. This may have a double origin. It may be due to the increased timidity of the individual at that time, and a consequent increase in the subjective sensations of the disease, and it may be due, at least in part, to the natural letting down of the power of resistance of the organism that we believe does occur during the night. Whatever may be the explanation, says Dr. Richardson, the fact is indisputable, and there is not a mother who does not dread the approach of night when her child is seized with a dangerous illness.

A still more interesting fact is the influence of the night season over moral attributes. There is a letting down in this direction which is very similar to that seen in the field of the emotions. The power of resistance to things evil is then diminished. The very mystery of night is conducive to an expanding of the imagination. There is a sharpening of all the senses that renders every sound clearer and makes every object stand out in greatly heightened distinctness. The sense of hearing is more acute, the eyesight detects objects more readily, the touch is quickened, and the whole being is more sensitive. Whether this is evidence of weakness, says the author, the hyperæsthesia of nervous exhaustion, or a quickening of every tissue in its instinctive strife for self-preservation, may be beyond us; of the fact we all have proof in the promptings of our own hearts.

The most dangerous hours of the twenty-four, he continues, to the melancholic are the latter hours of the night. The depression is then greatest, obstacles then seem most insurmountable, and the power of resistance to the suicidal impulse is then least effective. He has often found it necessary to give special instructions to attendants in this regard. This all goes to demonstrate, he says, that the energy of the patient is at its lowest ebb during the night; that there is then a natural depression and timidity.

What is experienced by the sane, influences also the insane, and obstacles and misfortunes then mount highest in their vision. There is doubtless scarcely a melancholic who does not at one time or another have suggestions of self-destruction, and whether or not they will control him depends entirely on the strength of the suggestion. The particular hour of the night is often sufficient to throw the balance against the poor unfortunate, and in this sense it becomes an actual exciting cause of suicide.

It is a fact that we should not lose sight of, and the author is convinced that it has its basis in a physiological variation of the organism at this hour. Just as certainly, says Dr. Richardson, as there is a physiological condition of exaltation and sense of well-being, so also is there a physiological state of depression and irritation with our environment. It is not necessary to assume that this implies disease. It does not. It is simply an inevitable reaction, such as is seen in all physiological phenomena. There is a coming and a going, a rise and fall, a season of joy and a sense of pain, and he is persuaded that the greatest factor that instituted and enforces this law of Nature is the daily cycle of the earth on its axis, with its necessary presentation and withdrawal of organic life to that source of all life and energy, the solar centre. In its presence we imbibe warmth, energy, confidence, life; in its absence we suffer the reaction of coldness, lowered ambition, lack of confidence, and moral cowardice—a curious physiological fact and one not without its practical application.

**The Spinal Cord of a Rabbit Successfully Used, as a Graft in the Median Nerve of a Man.**—In the *British Medical Journal* for October 31st Mr. Mayo Robson relates the following case, which, he thinks, will be found of interest: The patient, a gardener, was admitted into the Leeds Infirmary on January 18, 1890. He gave the history of having seven months before fallen on a scythe, which had produced a deep incision on the lower and inner part of the upper arm, the brachial artery having been divided. At the time of injury a surgeon was sent for; the artery was ligatured, and the two ends of a divided nerve were sutured. The wound healed slowly by granulation. On admission to the infirmary, the patient was in robust health. There was a scar on the inner aspect of the right arm, extending from a point two inches above and to the inner side of the olecranon process obliquely upward and forward for about three inches to the inner side of the prominence of the biceps. The circumference of the right forearm was two thirds of an inch less than that of the left, that of the wrist half an inch less. The hypothenar eminence was absent, the thenar eminence was much atrophied, and the interosseal muscles were very much wasted. He had entirely lost the power of grasping, though he could flex the metacarpophalangeal articulations to a right angle. Extension of the wrist was possible, apparently with considerable exertion, but flexion of the wrist was impossible against gravity. The thumb could not be adducted or the fingers separated or approximated. All the muscles acting on the wrist and hand which had their nerve supply from the median and ulnar nerves were paralyzed, while those supplied by the musculo-spiral were capable of acting.

Sensation was absent along a narrow line extending over the inner and anterior aspect of the ulnar border of the forearm from the elbow to the wrist. In the

palm sensation was absent except over the thenar eminence and part of the proximal phalanx of the thumb. On the back of the hand it was absent, internal to a line drawn backward from the cleft of the middle and ring fingers, also over the whole of the back of the little and ring fingers, as well as over the distal one and a half phalanges of the index and middle fingers.

On January 30, 1890, the limb having been previously aseptized, ether was administered, and an incision made along the line of the cicatrix, which was prolonged some distance upward and downward, and supplemented by a transverse incision about an inch above the elbow. The ulnar nerve was soon exposed above the internal condyle, firmly fixed in fibrous tissue. The lower end of the upper segment, which was bulbous, was connected by fibrous tissue with the upper end of the lower segment. A long search then took place for the median nerve, as the large cicatrix had altered the normal anatomy of the parts. A small nerve was discovered at the upper part of the wound, which proved to be the internal cutaneous. The lower end of this nerve was discovered later, and united to the upper by a catgut suture. The internal intermuscular septum was divided an inch and a half above the internal condyle, and the atrophied remains of the brachial artery were defined. At last, at about the middle of the upper arm, the bulbous lower end of the upper segment of the median nerve was discovered well under and concealed by the belly of the biceps. Then the upper end of the lower segment was found just above the bend of the elbow. This extremity was expanded and sent ramifications into the cicatrix. The fibrous tissue between the ends of the ulnar nerve was excised, and the two healthy portions were united by grafting strands of the sciatic nerve of a rabbit so as to fill up the gap and produce continuity. It was quite impossible to bring the divided ends of the median nerve nearer to each other than two inches and a half. All the nerve tissue having been exhausted in uniting the ulnar nerve, the spinal cord of a rabbit just killed was used as a graft to connect the ends of the median nerve, the inserted cord lying loose and quite free from tension when finally placed in position. Fine catgut sutures were used throughout. The edges of the wound were brought together and the usual dressings applied, the arm being fixed on a rectangular splint. Healing occurred by first intention, and there was entire absence of fever or pain.

On February 10th the patient could feel the scratch of a pin on the flexor aspect of the first phalanx of the thumb, as well as at the root of the index finger. He could tell when the hairs on the back of the first phalanges of the ring and little fingers were pulled, but could not feel the scratch of a pin in that position.

On February 17th sensation had returned over the whole of the palmar surface of the thumb and the proximate phalanx of the index finger.

On March 4th sensation seemed to be creeping slowly along the first finger, and to be present over the whole of the palmar area supplied by the median nerve, and extending as far down as the web of the fingers, and a short distance along the middle finger. As yet there was no marked improvement in the ulnar distribution.

On March 6th electrical reaction to faradism was absent in the muscles. C. C. 15 M. A. P.; C. C. C. equal to A. C. C. in flexors; C. C. C. greater than A. C. C. in extensors.

The muscles were gradually developing, and the general nutrition of the hand showed improvement.

There was a slight power of grasp and there was some power of flexion of the wrist, as well as slight power of adduction of the thumb and flexion of the fingers. Sensation was felt all over the thumb and index finger, in the second finger up to the first phalanx on the palmar aspect, also in the third finger, though less distinct. No sensation could be elicited over the distribution of the ulnar nerve.

On March 30th he began to have sharp shooting pains along the distribution of the ulnar nerve.

On April 1st the flexors of the forearm began to react visibly to C. C. C., though the muscles of the thenar eminence did not, and there was no faradaic reaction.

On April 30th sensation was returning at the back of the ring finger, and the flexors now reacted to A. C. C. of 5 M. A. P.

On June 13th the nutrition of the hand was much improved, and there was a greater feeling of warmth in it. The patient could pick up small objects, and, although the grasp was not powerful, it was much improved. The powers of flexion of the wrist and adduction of the thumb were considerably increased, but there was no sensation as yet over the ulnar distribution.

He did not resume work till March, 1891, not because he was unable to undertake light work, but because he wanted to give the arm a fair chance of complete recovery. Since March, 1891, he had not missed a single day's employment, and was able to do all his duties completely, from wheeling a well-laden barrow to using a scythe.

When the patient was seen in February, 1896, there was a firm round scar along the inner side of the arm. The circumference of the right forearm was eleven inches; the left forearm, eleven inches and an eighth; the right wrist, seven inches; and the left wrist, seven inches and an eighth.

From these measurements, says the author, it will be seen that the muscles had almost completely returned to their former volume, and in the hand all the muscles except the abductor of the thumb were as well developed as in the left, this being quite as well marked in the interossei as in the other muscles. The movements of the arm were completely restored and were almost as perfect as in the left. Flexion of the fingers and the grasp had completely returned, and the only weak muscle was the abductor of the thumb, which had no perceptible power. Sensation was completely restored, as was easily demonstrated by touching the different portions of the arm and hand with a pin. All the muscles of the arm and hand reacted to faradism, except the abductor of the thumb.

It will thus be seen, says the author, that, although recovery had been tardy, it was complete in almost every respect, the only exception being that of the abductor pollicis, which for some unexplained reason did not recover its function. The case, he says, clearly demonstrates the possibility of restoring continuity of nerves by grafting. Whether the spinal cord in this case took up the functions of a nerve, or whether it simply served as a basis on which the nerve tissue was built up, the author is unable to say, or why restoration of function in the ulnar nerve should have been slower than in the median nerve, as the ends of the ulnar nerve were not separated more than three quarters of an inch, whereas the ends of the median nerve were from two to three inches apart. Could it be, he asks, that the spinal cord offered a better medium for establishing continuity? Mr. Robson thinks there is still much to learn concern-



ing the repair of nerve lesions, and states that he is not at all certain that the conclusion of physiologists is correct when they affirm that the peripheral portion of a divided nerve always undergoes atrophy.

**The Infant's Bath.**—In the November number of the *Archives of Pædiatrics* there is an article on this subject in which the writer remarks that the bath is the most essential item in the hygiene of infancy. Its proper administration is so important to the well-being of the child that instruction regarding it should always be given by the medical attendant. The changes which take place at birth are so radical that the first bath should be given with great care. The child is suddenly transferred from an unvarying temperature of 100° F., where surface evaporation is impossible, to a varying temperature of from twenty to thirty degrees lower, where evaporation from surface and lungs is constant, and where it must rely wholly upon heat generated within its own body. It is remarkable, he says, that such a change is as well tolerated as it is: We should certainly do nothing to reduce the vital forces, and should take every precaution for preserving the vital heat. The temperature of the water should be decidedly higher than that used subsequently. The first bathing should be done as rapidly as possible. The tub is not necessary, and, in the case of delicate children, it is unwise to use it.

The *vernix caseosa* is soluble in fat, which should be employed for its removal. An animal oil is best; lard removes it more readily than any other substance. After thorough anointing of every portion of the body, especially the folds and creases, the oil should be wiped away with a soft towel, a sponge with a little warm water and soap being used in places. On the following day, when the child has become more accustomed to its new surroundings, a more thorough bath may be given, but it is best not to use the tub until the cord has fallen.

When the tub is first used, the period of immersion should be short. The nurse should take the child upon the lap, where it is carefully soaped and sponged, care being taken to avoid drafts and undue exposure. It may then be dipped into the water, more for the purpose of rinsing than for actual bathing. The duration of the immersion may be increased until the whole bath is given in the tub, this being determined by the strength of the child and its power to react.

A healthy child of ordinary strength should be bathed daily until it is at least two years old. The bath should be given midway between meals, the late morning or forenoon being the most suitable time. In hot weather the child may also be sponged in the evening. Washing for purposes of cleanliness should be done as frequently as the occasion may arise.

Cold baths, continues the writer, should never be given to an infant, and all attempts at "hardening" should be strictly forbidden. A cold bath accomplishes good only when the shock it produces to the cutaneous surface is followed by brisk reaction. Little children are very susceptible to cold; reaction is slow and imperfect. Hence, if the bath is too cold, the child remains pinched and blue, and is restless and fretful. If such baths are frequently repeated, the child becomes continuously irritable and ceases to thrive. Very serious results may immediately follow excessive chilling of the surface. Too hot baths, on the other hand, should be avoided with equal care.

The hand is an unsafe guide by which to determine the temperature of the water. This should always be determined with the thermometer. A bath thermometer should, therefore, be a part of the equipment of every nursery. This consists of an ordinary thermometer of large size, set in a wooden case. The proper temperature of the bath for various periods during the first two years is as follows: At birth, 100° F.; during the first month, 97°; from one to six months, 95°; from six to twelve months, 90°; and from one to two years, 86°.

The soap employed for the baby's bath is of importance. Soap containing an excess of alkali may seriously irritate a child's delicate skin and predispose it to erythema or eczema. The best grade of white Castile soap is the most suitable for baby's use. The oatmeal soap, of a good maker, may also be employed. Dr. Griffith regards the German soap known as *Basis Seife* as the best. It can be obtained through most druggists.

The writer thinks that a dusting powder is not necessary when the skin is in normal condition and is properly dried after the bath. One of the chief objections to its use, he says, is the fact that nurses are prone to rely upon it, instead of taking proper care in drying the surface. When properly used, there can be no objection to it. In the case of some children it is a necessity. Talc is the best powder for infants' use, but lycopodium, rice powder, magnesia, and starch are almost equally good. If the child shows a particular tendency to chafe, a powder may be prescribed consisting of two drachms of subnitrate of bismuth or powdered oleate of zinc and an ounce of powdered starch.

If the child becomes afraid of the bath, it is unnecessary cruelty to insist on its being plunged into the water. Such fear, if once acquired, is very difficult to overcome. The best means for accomplishing that end is to place a sheet over the tub and gradually lower the baby and the sheet into the water.

The scalp should be washed daily until the child is six months old. After that time the frequent application of soap and water tends to render the hair brittle, and their too frequent use is not advisable.

The details of the infant's bath, of which an excellent illustration is given, are considered by the writer as being very important, for without extreme care in protecting the child's body from cold, harm of a more or less serious nature may result. The nurse, he says, should have a small rubber sheet, or, better still, a rubber apron, for her own protection. Over this should be spread a double bath blanket in which the child may be protected while being dried. A still better device consists of two large pieces of flannel buttoned or sewed to the waistband of the nurse like an apron. The lower one may be used to hold the baby in, and the upper one to cover it while the towels are being used.

The character of the bath tub is also of importance. An oval tub of tin or porcelain with one sloping end is serviceable. Such a tub should be placed on a low stand or table, to save unnecessary strain upon the back of the nurse, and to diminish the danger of accidents to the child by its slipping from the hands. A portable bath tub of folding pattern is a great convenience. It can be readily put out of the way at home, and is easily carried abroad, so that the infant need not be deprived of its bath if traveling is necessary. A home-made tub of folding pattern was described not long since in *Babyhood*. The legs, which are crossed, are



thirty inches long. These are attached to two side bars at the top. The tub itself is made of a single piece of white rubber cloth. There is a hem in each end, and through these hems broad tapes are passed and securely fastened to the ends of the side bars. The sides of the rubber cloth are tacked to the top of these side bars; a small plate at each corner gives the tub its shape.

The writer thinks that it is so important that the infant should receive its bath regularly and in proper manner that the family physician should never feel it out of his sphere or beneath his dignity to give minute directions regarding it.

**Mirror-writing.**—In Parts LXXIV and LXXV of *Brain* Dr. F. J. Allen, of Birmingham, England, remarks that a study of the subjective phenomena of left-handed writing, or mirror-writing, may help to throw light on the nerve processes concerned in writing and other complex co-ordinated acts. The faculty of mirror-writing is probably not at all rare. It may be possessed more or less by most persons, but may remain unobserved. It is apt to be discovered for the first time when some nerve disease renders normal writing difficult or impossible; the patient then falls back on the resource of left-handed writing. Thus mirror-writing is often a symptom of nerve disease; but the disease need not be the cause of the existence of the faculty, but only the cause of its discovery. The author states that he accidentally discovered it in himself when he was a boy, and that, on making the first attempt, he was able to write backward with the left hand without error or hesitation. The most noticeable subjective phenomena, he says, are the following:

1. It is very easy to write in mirror fashion with chalk on a blackboard, co-ordination seeming to be perfect in the movements of the left arm and wrist. But when using a pen with the left hand there is slight difficulty in some of the movements. There is no hesitation as to the formation of the letters, but occasional awkward movements will produce distorted lines, and there is special difficulty in keeping up a smooth onward movement, the movement of alignment.

2. Writing is only a little slower with the left hand than with the right. In the fastest possible mirror-writing there is no error in the form of the letters—only such want of neatness and distinctness as occurs in writing too fast in the ordinary way.

3. The following actions are quite easy: Writing the same thing simultaneously with both hands. Writing backward with the left foot, *i. e.*, scratching on sandy ground, as one sometimes does with the right foot. Using the deaf-and-dumb finger alphabet in the reversed or left-handed manner.

4. If a new alphabet is learned with the right hand, it can be written with the left; it is not necessary to learn it separately with the left hand; the nervous system, after being trained to any kind of writing with the right hand, is able to send its co-ordinated messages almost equally well to either hand.

5. The assistance of sight is not necessary in mirror-writing. Indeed, sight may even impede it; and, although it is easy to write left-handed, it is difficult to read what one has written. The author states that when he looks at his mirror-writing, it sometimes conveys no meaning to him, and he experiences sensations which are probably much the same as those of a person who is word-blind, but retains the faculty of writing. In order to decipher such writing, he says, it is necessary

to run the eye along the lines, and so reproduce the sensations which accompany the act of writing. He finds considerable difficulty in reading print reversed by means of a mirror, but hardly any difficulty in reading a book held upside down.

Dr. Allen states that he has no tendency to be left-handed, though he might almost be called ambidexter.

The sensations accompanying all kinds of writing, he continues, whether with right hand or left hand, right foot or left foot, are so similar as to suggest that in all cases the messages start from the same region of the brain; but it seems as if a series of commutators existed at a lower level whereby the impulses could be turned into different channels leading to analogous but sometimes heteronymous groups of muscles. This supports the view that the true graphic centre is not coincident with either of the motor centres, but superior to all of them.

**The Treatment of Whooping-cough by Inhalations of Ozone.**—In the *Nord medical* for November 1st M. E. Doumer relates his experience with this mode of treatment in five cases. The general condition of the patients was satisfactory, except in the case of a child of four years, who vomited frequently and had several attacks of epistaxis. Generally, the nights were disturbed by attacks of coughing, with the exception of the case of an adult in whom the disease was very slight. The age of the patients varied from three to thirty-five years. They were subjected to inhalations of ozone for ten or fifteen minutes twice a day, and the general results observed were as follows: 1. Four of the patients who passed very bad nights became better from the second day of the treatment. 2. The frequent vomiting attacks in the fifth patient disappeared after the beginning of the treatment. 3. From the second day the coughing attacks became less frequent and less painful. 4. Whenever the treatment was interrupted the attacks of coughing had a tendency to return in greater number. 5. All the patients recovered after a period of from nine to fifteen days, during which time they received from twelve to twenty-seven inhalations of the ozone. 6. This treatment was begun in the middle of August, and up to the time of the report there have been no relapses.

M. Doumer states that he recognizes the fact that this report is based upon a very small number of cases. Caillé, of New York, he says, reported seven cases, and M. Labbé and M. Oudin fourteen or fifteen cases in which rapid recovery was obtained with this mode of treatment. Such results are very encouraging, says M. Doumer, and it will be interesting to pursue the study of this mode of treatment.

**The Heart under Roentgen Illumination.**—Dr. Benedict, of Vienna (*Wiener medizinische Blätter*, October 29, 1896), finds by X-ray illumination that the apex approaches the base of the heart in systole, so that there is no apex impulse in Skoda's sense, but at most a lateral systolic apical stroke. The ventricles are not entirely emptied at each systole, but always retain a considerable amount of blood; nevertheless, the four thousand heart-beats to the hour carry fresh blood enough into the arteries. On deep inspiration, the normal heart rises from the diaphragm, so that an appreciable interval is visible between them. Such examinations are most satisfactory if made on young and thin persons, and they do no harm unless they are made improperly or too often.

AIDS IN OBSTETRIC TEACHING.  
By JAMES CLIFTON EDGAR, M.D.

(Continued from page 674.)

III. Composition Models.

In casting about some time since for a cheap substitute for rubber in the construction of models, our atten-

tion was directed to the glue composition which modelers and plaster workers have for years made use of in the manufacture of their interior decorations. Our aim was to produce flexible cervixes and pelvic floors by this method, and after much experimenting we were compelled to confine our models in composition here described to a series of parturient cervixes in different



FIG. 38.

FIG. 38.—Cervix in latter part of gestation or at beginning of labor. Vaginal and supravaginal portions of cervix unchanged. *v.*, cuff of vagina; *ex. os.*, external os and infravaginal portion of the cervix; *c. v. j.*, cervico-vaginal junction; *s. v. c.*, supravaginal portion of cervix; *in. os.*, internal os; *l. u. s.*, lower uterine segment. (Composition model; from a photograph.)

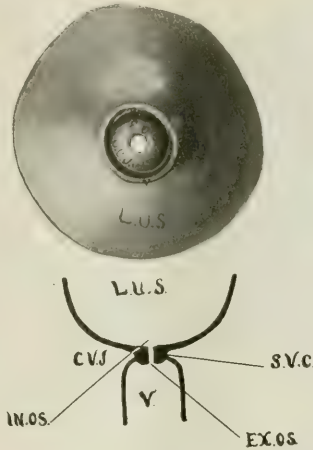


FIG. 39.

FIG. 39.—Lower uterine segment during labor. Cervix in progress of being drawn up into the body of the uterus. Supra- and infravaginal portions of the cervix still present. *v.*, cuff of vagina; *ex. os.*, external os and infra-

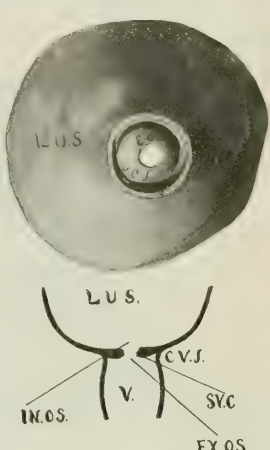


FIG. 40.

vaginal portion of cervix; *c. v. j.*, cervico-vaginal junction; *s. v. c.*, supravaginal portion of cervix; *in. os.*, internal os; *l. u. s.*, lower uterine segment. (Composition model; from a photograph.)

FIG. 40.—Lower uterine segment during labor. *v.*, cuff of vagina; *ex. os.*, external os, infravaginal portion of cervix has disappeared; *c. v. j.*, cervico-vaginal junction; *s. v. c.*, supravaginal cervix, small portion only remaining; *in. os.*, internal os; *l. u. s.*, lower uterine segment. (Composition model; from a photograph.)

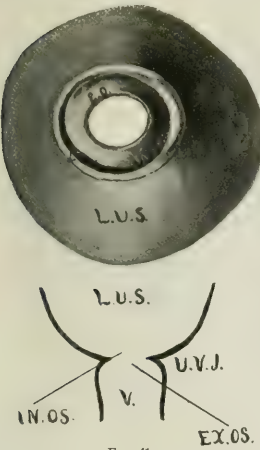


FIG. 41.

FIG. 41.—Lower uterine segment during labor. Os uteri in progress of dilatation. Supra- and infravaginal portions of the cervix have disappeared. Os one third dilated. *v.*, cuff of vagina; *ex. os.*, external os; *u. v. j.*, utero-vaginal junction; *l. u. s.*, lower uterine segment. (Composition model; from a photograph.)

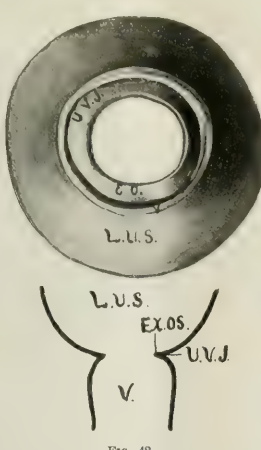


FIG. 42.

FIG. 42.—Lower uterine segment during labor. Os uteri almost fully dilated.

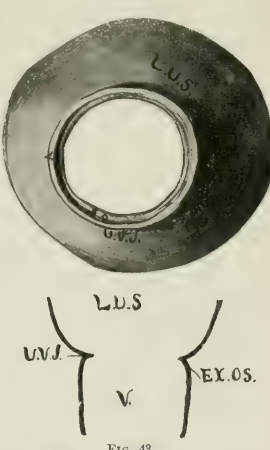


FIG. 43.

*v.*, cuff of vagina; *ex. os.*, external os; *u. v. j.*, utero-vaginal junction; *l. u. s.*, lower uterine segment. (Composition model; from a photograph.)

FIG. 43.—Lower uterine segment at completion of first stage of labor. Os uteri completely dilated. *v.*, cuff of vagina; *ex. os.*, border of external os, scarcely perceptible; *u. v. j.*, utero-vaginal junction. (Composition model; from a photograph.)

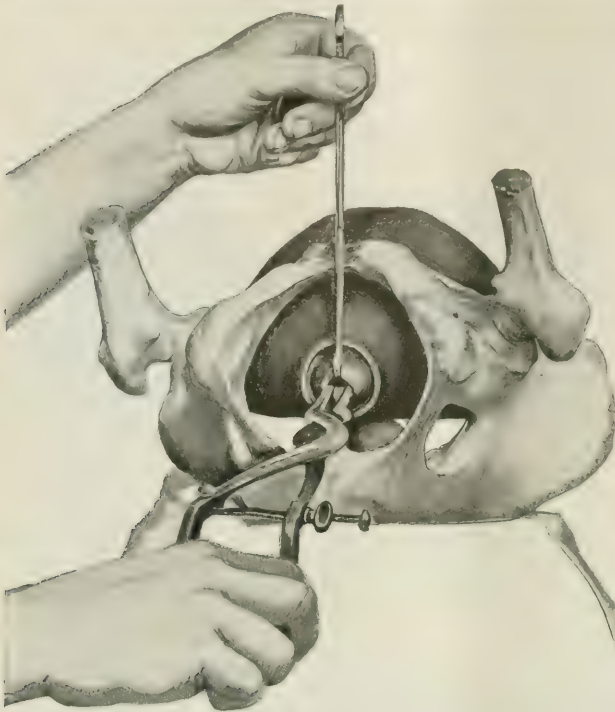


FIG. 44.—Instrumental dilatation of parturient os preparatory to further manual dilatation, gauze packing the introduction of bougies for the induction of labor, or cervical dilators. (Composition model: from a photograph.)

stages of dilatation (Figs. 38 to 43), and, after all, fall back on rubber for the pelvic floor (Fig. 63).

The composition mixture finally adopted was one of Cooper's A-1 glue and pure glycerin, the same as that used by modelers and plaster workers, with the addition of glycerin, to give the mass lasting flexibility, the glue being chosen in preference to gelatin because of its being cheaper. The proportion of the glue and glycerin will depend upon the degree of flexibility of the model desired. I have found that a proportion of one part of glue to one of glycerin gives the proper flexibility to the mass for the cervixes subsequently described.

The method is very simple and, aside from the glycerin, very cheap. The glue is first soaked in cold water until moist; the excess of water is then removed by filtering through stout burlap or other filtering material. Then, placed over a water bath, the glue is melted, the glycerin added, and the mass allowed to boil until most of the small amount of water contained in

it is expelled. Subsequent contraction and hardening of the model will depend upon the completeness with which the water passes off at this time. The time required for this heating process will depend upon the size of the mass and the amount of the contained water.

When ready to pour, the mass should be almost free from water, of a thick, creamy consistence, and no small pieces of glue should remain unmelted.

At this time any desired color may be imparted to the composition by the addition of a strong alcoholic solution of any of the aniline series.

*Preparation of the Mold.*—Given a clay, plaster, *papier-maché*, or other model, which it is desired to reproduce in glue composition, it is first necessary to construct a mold. For the composition cervixes (Figs. 38 to 43) the lower segment of the *papier-maché* model of the pregnant uterus at the eighth month (Fig. 18) was used. A negative mold of the lower third of this uterus was taken in plas-

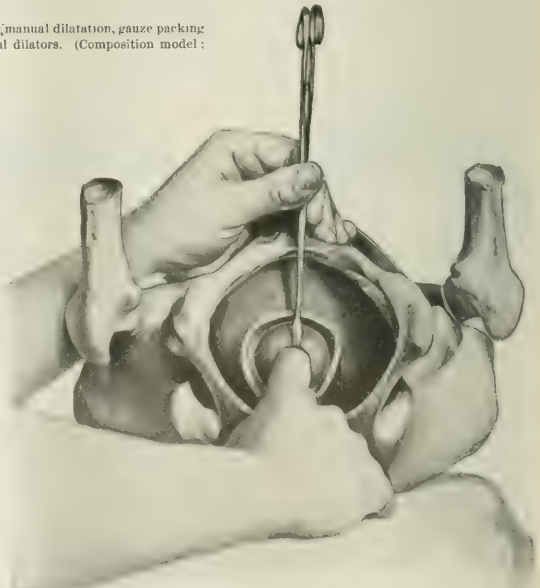


FIG. 45.—Digital dilatation of the parturient os. Os admits one finger. Vaginal and supravaginal portions of the cervix present. (Composition model, from a photograph.)



ter in the usual way. Then, to secure the desired thickness of the composition model, a layer of clay of the required thickness was carefully placed in the negative mold, completely and smoothly lining it. Plaster is now run in over the clay to form the core of the interior of the mold. The plaster being thoroughly hard, the core and negative mold are separated, the clay removed from the negative mold, both carefully shellacked upon their opposing surfaces, and when dry are oiled and fastened firmly together. The mold is now ready for the reception of the heated glue mass.

*Pouring the Composition and casting the Model.*—In pouring the mass care should be used that it is not too hot, otherwise it is liable to stick to the mold and core by removing the coating of shellac therefrom. Moreover, we have found that the higher the temperature at which the mass is poured the greater will be the subsequent contraction of the model upon cooling. At ordinary temperatures the models should not be removed from the molds for at least six hours.

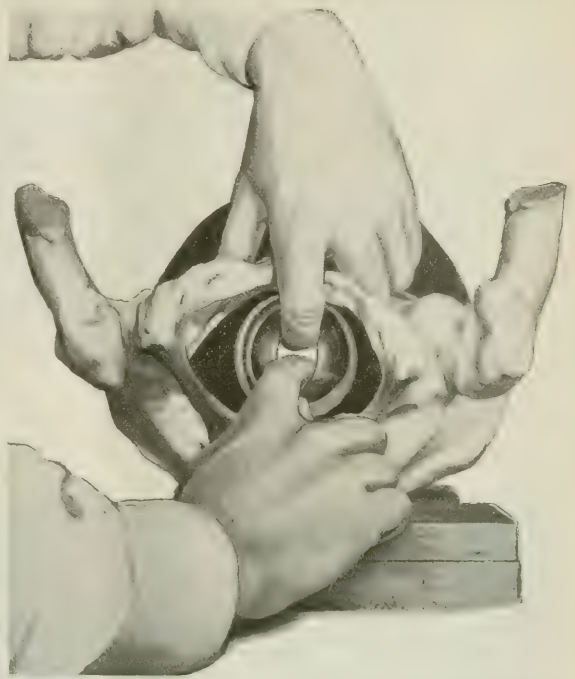


FIG. 46.—Bimanual dilatation of the parturient os. Os admits two fingers. Vaginal and supra-vaginal portions of the cervix present. Commencing shortening of the cervical canal. (Composition model; from a photograph.)



FIG. 47.—Bimanual dilatation of the parturient os. Os admits three fingers. Supravaginal portion of the cervix disappearing. (Composition model; from a photograph.)

I have not found it necessary in these obstetric models to keep them when not in use in their molds to avoid distortion, as Freeborn\* advised in pathological models.

*Remelting the Models.*—Should the models, after continued use, shrink or become hard, remelting and adding an additional quantity of glycerin to the mass will lend new flexibility to the models and render them less liable to shrink.

I desire to express my indebtedness to Mr. James M. Kerr, of the firm of Kerr & Rasario, sculptors, 229 West Thirty-second Street, New York, for valuable instruction and assistance in the use of plaster and composition for the purpose indicated in this paper.

1. Series of composition models of lower uterine segment, showing mechanism of dilatation, with the gradual disap-

\* Freeborn. A New Material for Models. *Proceedings of the New York Pathological Society* for 1891.

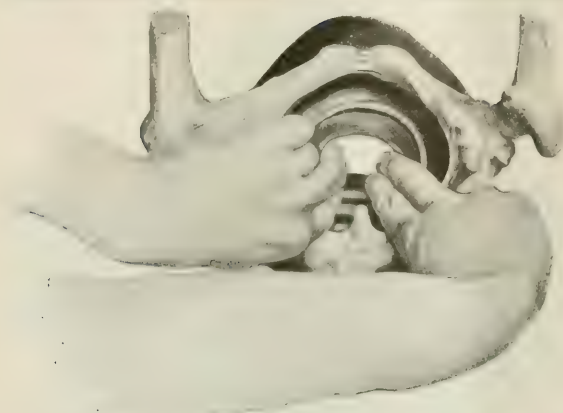


FIG. 48.—Bimanual dilatation of the parturient os. Os one-half dilated. Lateral position of the hands. (Composition model; from a photograph.)

pearance of the supravaginal portion of the cervix.

Figs. 38 to 43 represent these composition cervixes, and we have added, to render the illustrations more graphic, an outline sketch of the upper vagina and cervix of each to indicate the changes in cervical canal, external and internal os, as dilatation progresses.

The uses to which such simple composition models can be put are almost endless, and we have illustrated some of these in the following illustrations:



FIG. 49.—Bimanual dilatation of the parturient os. Os two-thirds dilated. Antero-elevation of internal os. (Composition model; from a photograph.)

*Bimanual Dilatation of the Parturient Os.*—Series Figs. 44 to 50 indicate our preferred method of combined instrumental and bimanual dilatation of the parturient os. The limits of the present paper forbid my entering upon the arguments in favor of this particular variety of manual dilatation, which has been given an abundant trial over a period of several years in many conditions of the parturient cervix.

I feel justified, however, in stating in this place that this method of bimanual dilatation of the os is to be preferred to other digital and instrumental methods, because (1) the membranes are preserved throughout the operation or until full dilatation is ob-



FIG. 50.—Bimanual dilatation of the parturient os. Os fully dilated and being stretched to prevent accidents to the after-coming head. (Composition model; from a photograph.)

tained; (2) there is no interference with the original presentation and position; (3) the sense of touch of the operator's fingers is unimpaired; (4) there is no constriction of the operator's hands; (5) the amount of force exerted upon the external ring can be better estimated, and hence there is less likelihood of lacerations occurring.

Fig. 51 represents the position of the fingers at the ring of the os in bimanual dilatation; no encroachment into the uterine cavity occurs.

Fig. 52 shows the position of the hands as seen in



FIG. 51.—Bimanual dilatation of the parturient os, internal view, showing position of the fingers. Os admits three fingers readily. Internal os still present. No encroachment of the fingers upon the cavity of the lower uterine segment. (Composition model; from a photograph.)

an operation on the living subject, and is from a photograph taken at the Emergency Hospital.

*Ordinary Digital and Manual Dilatation of the Parturient Os.*—Figs. 53 and 54 represent the ordinary digital (with one hand) and manual dilatation of the os, in both of which methods there is unnecessary and dangerous encroaching on the part of the operator's hand upon the lower uterine segment and the consequent dangers of (1) displacement of presentation or position; (2) displacement of arms or cord; (3) premature rupture of the membranes, and loss of the valuable assistance of the liquor amnii in subsequent manipulations, as version, for instance; (4) premature separation of a placenta prævia; and (5) constriction and loss of sensation in the operating hand, and with the consequent danger of lacerations of the external ring from inability to measure the amount of force exerted and the tension of the ring, together with failure to completely paralyze the ring, so that trouble in the extraction of the after-coming head results.



FIG. 52.—Bimanual dilatation of the parturient os. External view, showing position of hands. (After a photograph of the operation taken at the Emergency Hospital.)



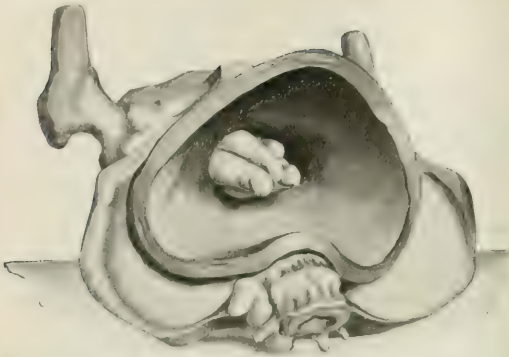


FIG. 53.—Illustrates a common method of manual dilatation of the parturient os and the dangers that ensue of prematurely rupturing the membranes, displacing the presenting part or separating a placenta praevia, by reason of the marked encroachment of the fingers of the operator into the cavity of the lower uterine segment. (Composition model; from a photograph.)

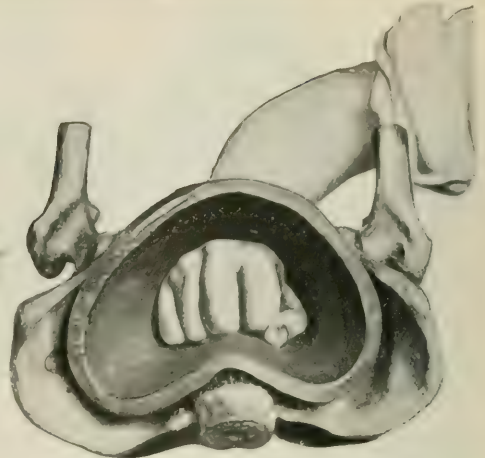


FIG. 54.—Illustrates a common method of single-handed manual dilatation of the parturient os, which has the same objections as the method depicted in Fig. 53, but to a less degree. (Composition model; from a photograph.)

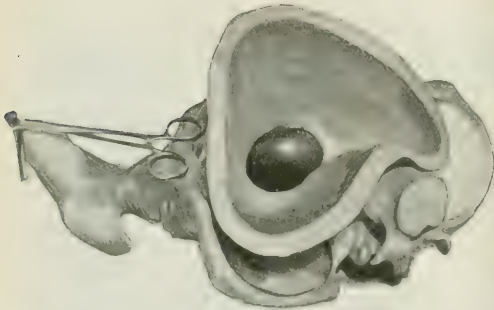


FIG. 55.—Barnes's bag in position in a cervix that admits two fingers. Show encroachment of the distal end of the dilator into the cavity of the uterus and the possible dangers of displacement of the presenting part, or premature separation of a placenta praevia, and consequent internal or concealed hemorrhage. (Composition model; from a photograph.)



FIG. 56.—Dangers of breech extraction through an imperfectly dilated os. Same as Fig. 55. Seen from the uterine cavity. (Composition model; from a photograph.)



FIG. 57.—Dangers of breech extraction through an imperfectly dilated os. External os not fully dilated. Traction on the legs causes extension of the head and both arms. Seen from the vagina. (From a photograph; composition model.)

Fig. 55 shows the interior of the lower uterine segment, with an os the size of two fingers, a Barnes's cervical dilator in position, and the dangerous encroachment of the latter into the cavity of the uterus, rendering malpresentation liable to occur.

*Dangers of Breech Extraction through an Imperfectly Dilated Os.*—Figs. 56 and 57 illustrate this condition, selected from many other equally important ones.

When the student is made to see what may happen



FIG. 58.—Cervix partially dilated. Membranes ruptured. Vertex presenting. Prolapse of hand and cord. (Composition model; from a photograph.)

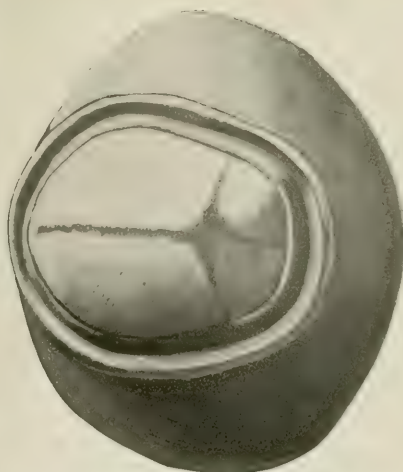


FIG. 59.—Cervix partially dilated. Labor obstructed by reason of partial extension of the head, causing occipito-frontal diameter to pass through cervix and pelvis. (Composition model; from a photograph.)

should he thoughtlessly make traction upon a leg in breech presentation before the completion of the first stage of labor, he is not likely to forget the dangers of such manipulations in the extended head and arms and the resulting impaction and death of the fetus.

Fig. 58 represents prolapse of the cord and hand in the middle of the first stage, and its accompanying dangers to the fetus; and Fig. 59 illustrates a common cause of obstructed labor due to an imperfect attitude of the fetus. The chin has left the sternum, resulting in incomplete flexion of the head and the passage of a larger diameter than necessary (occipito-frontal) through the cervix and pelvis.

(To be concluded.)

#### A NOTE UPON

#### SERUM DIAGNOSIS BY MEANS OF DRIED BLOOD SAMPLES IN (EXPERIMENTAL) CHOLERA.

By WYATT JOHNSTON, M. D., AND E. W. HAMMOND, MONTREAL.

(From the Molson Pathological Laboratory, McGill University.)

THE announcement made by Achard and Bensaude (*La Presse médicale*, September 26, 1896; abstract in *New York Medical Journal*, November 7, 1896) that they had successfully employed serum diagnosis in all of eleven cases of cholera, has led us to publish briefly the result of some experiments we have been making to see if drops of dried cholera blood form a suitable material for obtaining and testing the serum reaction. Not having the blood of cholera patients at our disposal, we experimented on rapidly immunized guinea-pigs.

We find that when the blood serum of an animal gives a good reaction in the fresh state the reaction may also be obtained by moistening a drop of the dried blood with water and mixing it with an actively motile cholera culture.

The cholera culture employed was one isolated by Dunham in 1892 from a case in New York and transmitted to the laboratory in 1893 by Professor Welch, of Johns Hopkins. This was brought up to a high degree of virulence by passing it through a series of guinea-pigs until intraperitoneal injection killed in ten hours, and subcutaneous injection in twenty hours.

From a tenth to half a loopful of sterilized suspensions of a twenty-hour growth in agar was injected beneath the skin or into the peritonæum of guinea-pigs, and was followed by prompt loss of weight. The larger doses usually produced promptly the characteristic blood reaction in the course of a few days, varying in intensity with the different animals.

The reaction was found well developed in one case within three days and a half after the dose. Here the animal died from a secondary infection. The dried blood, first examined two days after the animal's death, gave the reaction to perfection, extensive clumping taking place in the momentary interval between mixing the drop of dried-blood solution with the culture and bringing it under the microscope. Positive results were obtained in the cases of two other guinea-pigs inoculated on the same day. Check examinations of healthy animals and of these inoculated with very minute doses gave negative results.

From this it appears that the sending of samples of dried blood is likely to suffice for the serum test. We hope before long to receive samples of dried cholera

blood sent us under conditions which will be such as to give the method a practical test.

The fact that Achard and Bensaude found the reaction present even as early as the first day (in non-fatal cases) should make it invaluable in the diagnosis of cholera.

We have been surprised to find the ease with which the typical serum reaction, though not complete immunity, could be induced in animals by even a single dose of typhoid and cholera culture.

A preliminary protective dose is not strictly necessary, but it guards against loss of the animals by an accidental overdose.

We have followed Pfeiffer's recommendation to wait until the loss of weight of the animal is made up before repeating the dose.

## THE COMMITMENT OF THE INSANE

### AND THE

### "INSANITY LAW" OF THE STATE OF NEW YORK.\*

By GEORGE W. JACOBY, M.D.

THAT room for improvement existed in the laws governing the care of the insane in the State of New York had been so often asserted, and to an extent also substantiated, that the cry for reform was heard on all sides. Much, very much, has been since accomplished through the principle of State care and by the energetic and progressive action of the State Commission in Lunacy; as much as this is to be lauded, so much, however, must it be deprecated that in important matters, when questions arose which concerned both therapy and legislation, no unity of opinion even in regard to fundamental principles could be obtained, so that in certain quarters that was looked upon as the ideal to be attained which in others was considered an unpardonable regression. That under such circumstances any reorganization of our laws must result in more or less of a compromise was to be foreseen. In the case of the insane, the jurist and the physician necessarily meet, and each one involuntarily tends to view the entire situation from his own point of vantage. This, notwithstanding that in medical jurisprudence, a dual and border territory of two heterogeneous sciences, the recognition of truth is only then possible if all concurring juridical and medical aspects are impartially and carefully considered, as if the jurist were a physician and the physician a jurist. Such an impartial and actual consideration would easily disclose which side of a question, the medical or the legal, naturally preponderates, and to what extent such is the case. Unfortunately, however, the individual jurist and the individual physician is far too slightly familiar with the other's science to enable him to undertake such impartial consideration. It is, how-

ever, not too much to demand at least such an amount of objectiveness that each, the physician as well as the lawyer, should recognize that his territory must at some point or other have its limit, even if he is befogged as to the extent of this limitation, and that, therefore, he must not absolutely ignore the fundamental principles of the other.

The necessity of being obliged to collaborate with the exponent of a science which to me is more or less foreign, in order to attain a common end, one which rises superior to the individual interests of either of us, makes it imperative for me, at least, to endeavor to show toward the science of my collaborator such an amount of interest as to enable me to receive from him the elementary instruction necessary for an understanding of the views which he advocates.

By such principles do I consider myself bound when I am called upon to judge of the attitude of any and every worker, be he jurist or physician, in the tangled domain of medical jurisprudence. On account of the eminent difficulties of such collaboration between the two sciences, law and medicine, the results attained may never contain the ideals of both representatives, but if only the basic principles of each science are not willfully ignored, an acceptable understanding may be reached.

The endeavors to reorganize the care of the insane in the State of New York have formally reached a temporary close in the enactment by the Legislature of the New York State law which, under the name of the "Insanity Law" (chapter 545 of the Laws of 1896 and chapter 28 of the general laws of the State), went into effect on the 1st of July of this year.

One of the chief changes that were made in the former law applies to the commitment of the insane to institutions. Reform in this procedure of commitment has been frequently and strenuously advocated, but that the term "reform" is a characterization which may fittingly be applied to this new enactment we all—for I believe I may speak for every physician who has had any experience in the commitment of the insane—must emphatically deny.

In my opinion the framers of this law have totally failed to accomplish their mission—that, namely, of uniting the postulates of jurisprudence with those of medicine—and thereby, considering the decisive influence which medical jurisprudence has upon public welfare, have acted detrimentally to such welfare. The object of the following disquisition is to adduce the proofs which have led me to this opinion. I will be as brief as possible, but the subject requires a certain amount of detail.

The first impression gained upon reading the new law and superficially comparing its provisions with those of the old law, is that the framer has followed a preconceived tendency to as far as possible ignore the medical side of the question. To facilitate comparison let us briefly sketch the provisions of the old law:

The first step necessary in order to commit a person

\* Read before the New York Neurological Society, October 6, 1896.



to an institution under the old law was the making out of a certificate of insanity by two specially qualified physicians. The certificate could be made only after a personal examination of the patient. The special qualification of the physicians consisted in their being graduates of an incorporated medical college, in having been in active practice for at least three years, in being permanent residents of the State of New York, in being of reputable character, and in these qualifications having been certified to by a judge of any court of record. Upon a certificate of two such physicians the temporary detention in an institution could be effected—the temporary detention, for upon such a certificate the patient could not be held for more than five days. In order then to make the detention a more permanent one, it was necessary to apply to a judge of a court of record in the city and county or in the district in which the patient resided for approval of this certificate. Before giving his approval or refusing to do so, this judge was empowered to institute inquiry and take proofs as to any alleged lunacy, and to call a jury in each case to determine the question of lunacy if in his discretion such action was necessary. Only if the judicial approval was obtained within ten days after the date of the medical certificate could the detention of the patient be prolonged beyond the five days referred to. Therefore, according to the old law, the commitment to an institution presupposed (1) a certificate of two physicians, which, when sworn to before a notary, in itself sufficed for a detention of five days; (2) a judicial act consisting in approbation of the medical certificate with or without antecedent process of proof.

The new law has retained these two provisions in so far as it also requires a certificate of two physicians and a judicial act, but it has materially changed these provisions, not only in their constitution and action, but in their relation to each other. So materially has the entire pivot been displaced that, instead of an approved medical certificate, we now have a judicial decision with antecedent medical affidavits; an act of medical care has been supplanted by a legal process not at all lacking in formalism.

To begin with the medical certificate, the new law has made hardly any change in the provision for its construction. Now as formerly it must be made out under oath by two physicians whose qualifications remain the same; only, the necessary personal examination of the patient must be made by both physicians at one and the same time; also it is now ordered that the certificate must bear the date of this combined examination—i. e., the certificate must not be based upon the results of any previous examination of the patient, even should such examination antedate the certificate by only a single day. Whereas, according to the former law, the certificate in itself (without judicial approval) sufficed for the temporary detention in the institution, this force has with the new law been lost.

The judicial act of the old law has completely changed its nature in the new one. The judicial approval has totally disappeared and has been replaced by an independent judicial order. It is now the judge who, by power of his official authority, declares a person standing under his jurisdiction deprived of his liberty; it is not any more the physician dealing with a patient whose freedom, in his opinion, would be a menace to himself or his neighbors. With this, however, the responsibility for the act has been removed from the shoulders of the physician to those of the judge; from a question chiefly medical, has been made a question chiefly legal. This probably explains the further condition, that the rapid action which was formerly possible is now hampered by a delaying legal apparatus, which, while in the abstract not always necessary, will practically be employed more or less unexceptionally. For it is not any more a question of a helpless person unable to look out for himself on account of having become insane, but of a citizen who is to be injured by an infringement upon his personal liberty. If we pass over the provisions of the new law as to who is qualified to apply for the commitment as being immaterial and inconsequential, we may describe the manner of such commitment in the main as follows:

1. *The Application.*—The application for commitment must be made in writing and addressed to a competent judge. Competent is the judge of any court of record in the city or county, or of the Supreme Court of the district in which the patient resides or is. The application must, in addition to the name, age, residence, etc., of the assumed patient, contain—

- (a) The facts upon which the allegation of insanity is based and the reasons for the necessity of commitment.

- (b) The petition to the judge for a declaration that the person is insane, and for an order committing him to an asylum.

- (c) The name of the institution to which the commitment is intended.

- (d) The declaration on the part of the petitioner of the belief that this act is in the interest of the patient.

2. *The Verification of the Application.*—The applicant must be duly sworn, and declare the assertions contained in the petition to be true, and the matters stated upon information and belief to be true in his opinion. A copy of this notarial oath is to be affixed to this application.

3. *The Notification, or Surrogation of Notification.*

- (a) *The Notification.*—At least one day prior to the presentation of the petition to the judge the patient must be personally informed of the proposed application; under certain circumstances such service must be made also upon certain relatives, or, these failing, upon persons residing in the same house.

- (b) In cases in which such personal notification of

the patient seems to the petitioner to be impracticable, he must so inform the judge to whom he intends to present the application. If the judge, nevertheless, considers the personal notification indicated, this service must be made, or the entire action becomes fruitless. If, however, he has satisfied himself of the existence of such impracticability, he may at once either dispense with the personal notification (neither the patient nor any one in his stead being notified) or he must designate some person who is to be notified in lieu of the patient. The reasons for such dispensations with personal service the judge must give in writing. This is to be affixed to the application.

4. *Definitive Application.*—If the judge does not dispense with personal service upon the patient, the definitive application can only be made upon the day following such notification; if such dispensation is granted, there does not seem to be any reason why the application should not at once be formally made. The medical certificate, must, of course, also form part of the application.

Now, after these requirements have been fulfilled, and the application with the necessary documents of which it is made up are definitively placed before the judge, a decision upon the application may be at once rendered, or various legal intermediary stages, in the form of hearing of testimony and court proceedings, may defer this decision.

5. *Intermediary stages between definitive application and decision.*

(a) *Proceedings.*—Upon demand of a relative or near friend of the patient, the judge shall issue an order directing the hearing of such application before him.

This he may, however, also do if he sees fit without such application. The time set for these proceedings shall be not later than five days from the day of such order; but so far as I can see there is no reason why the proceedings may not be adjourned to some later date if regular court business so requires. If unable to conduct the hearing himself, the judge may appoint a referee, who shall then report to him. The persons directly interested, as well as such others as the judge may designate, are to be notified of the day set for the hearing. At this hearing testimony is to be taken, and if considered advisable the patient himself is to be examined.

(b) *Taking of Additional Testimony.*—Where there is no application for the order of a hearing, the judge may himself of his own incentive require additional proofs to those furnished by the application and the medical certificate.

(c) *The decision of the judge may be given at once if no hearing has been ordered, based simply upon the application accompanied by the physicians' certificate. If the order is refused, the reasons for such refusal are to be given in writing. The order may be granted in the sense of the application—the patient being declared insane and committed to an institution—or the order*

may be modified, the patient being declared insane, but instead of being committed to an institution be committed for care and protection into the charge of some relative, friend, or guardian; this, if the patient appears harmless and the relative, friend, or guardian declares himself willing and able to assume this responsibility.

6. So far as the actual internment is concerned—*i. e.*, the execution of the judge's order of commitment—I will here only say that the above-mentioned documents—application, certificate, order of proceedings, decision, and order of commitment—must immediately after the latter has been given be sent to the superintendent of the institution, and that this superintendent may refuse to receive the patient, not only because in his opinion he is not insane within the meaning of the statute, but also because the above-mentioned papers, in his opinion, are not executed in accordance with the legal provisions. Furthermore, reception is forbidden if more than five days have elapsed since the order was signed.

7. Let me further remark, in order to be complete, that an appeal may be taken against the decision of the judge by either party, and that such decision then involves a trial by jury.

Such, then, is the proceeding which the new law has elaborated for the commitment of the insane. That single jurists will in this proceeding find a source of satisfaction I do not doubt; but that a physician from a medical point of view can become reconciled to it is to me inconceivable. It must be clear that the requirements which medically are demanded of a proceeding whose purpose is to care for an individual, whether for his own protection or that of society, are not fulfilled by this law. A law stands scientifically higher the more perfectly it is adapted to the practical conditions of life, whose necessities it should serve, and it is totally immaterial what these conditions of life or necessities represent in each concrete case; immaterial, therefore, whether we are actually dealing with the organization of a standing army, with protection to capital or labor, with the building of means of transport, with the public-school system, or with the care of the sick and infirm. All such conditions or necessities of life must be aided by the law—*i. e.*, laws—and a legal apparatus must be constructed for the formation and maintenance of such organization. In all such cases the jurist's activity as a jurist begins, and it is not in the least my intention to maintain that in so far as the construction of laws is concerned his task is merely a formal one, as though his task were only to discover the best external form for a law, while the actual contents did not concern him; on the contrary, I am thoroughly well aware that every question which affects organized society in any of its functions also substantially falls within the territory of the jurist. It is, however, another question how far in each single case this territory extends, and here we must say that the extent of the jurist's influence upon the material contents of the law will necessarily vary

with the nature of the subject in hand, and necessarily always only be a relative one. If, therefore, the function of a law is to be subservient to practical conditions of life, it follows that those who possess the greatest knowledge of the special conditions which a certain law is to serve should be allowed to exert the greatest influence upon the construction of such law. No one will deny that a law concerning our coast protection should correspond to the expression of opinion of the experts in military and naval affairs. Should matters be different when a law concerning the care of the insane is in question, simply because so many laymen discuss mental diseases with arrogated authority, but without the slightest trace of even the most elementary knowledge? If, furthermore, a law is necessarily better the more it gives reflection to expert opinion upon the corresponding subject, so every true jurist will, in the construction of a law bearing upon any subject in which he is not an expert, endeavor to show consideration for the principles set up by those learned in this subject.

In order to avoid the possibility of any misinterpretation, I wish here to specially state what is perhaps self-evident, that in the present consideration I have in mind only those provisions of the new law which have reference to the actual commitment to an asylum, and therefore not those which regulate the appeal from the order of commitment, nor just as little the other, in part admirable, contents of this law. The old law was in its main provisions much to be preferred—first, in so far as it allowed for the temporary care of a patient upon the medical affidavit alone. In especially acute cases this provision was of inestimable value for the patient as well as for his surroundings; then the old law, at least in so far as its text was concerned, was superior to the new one in not demanding so formal a course of proceeding as the new law involves as a regular course.

The provisions of the new law which we are now considering were the outcome of complaints on the part of the public, oft repeated during the last few years, that perfectly sane people, or those only odd or eccentric, were confined in institutions by relatives to whose egoistic interests their presence formed an obstruction, aided by the "ever-ready tendency of physicians to diagnose insanity in every deviation from the ordinary."\*

Actually, however, notwithstanding the most thorough and impartial investigation, not a single case of confinement of a sane person in an asylum could be unearthed, but, on the other hand, many cases are known to us all in which the jurist, voicing the skepticism of the public, has brought about the premature discharge of insane persons, to the irretrievable ruin of themselves and their families. Notwithstanding the repeated proof of such facts, the deeply rooted suspicion still flourished in certain circles and was artificially nurtured and disseminated by the indiscriminate efforts of parties not without a large share of legislative influence.

Thus this suspicion has received faithful expression in the one-sided regulations of the new law. While the old law was by no means an ideal one, it at any rate was "pure in intention, good in principle, and wise in its disposition," and even when enforced in the most literal and annoying manner, as was usually the case, possessed palpable advantages over the law as it now exists. As already stated, there are two main points in which these laws differ from each other essentially, and to these I believe I am warranted in limiting myself. The one of these differences consists, as we have already seen, in the fact that in the new law the medical certificate without approval no longer possesses the power of temporarily placing a patient in an institution, but that such confinement is always coupled with a judicial proceeding. This from a medical point of view must be looked upon as a great objection to the new law. It is superfluous for me here to show how delay may react deleteriously upon both patient and surroundings.

The second main difference between the old and the new law has been shown to consist in the formal procedure which the new law has constructed in order to effect a commitment.

This procedure, which consists of certain clearly separated steps, is begun by an application, the form of which is clearly specified, and ends with a formal judicial act—an order. This act is supplied with reasons for its existence. If the application is granted, the reasons are to be sought in the attached medical certificates; if denied, they must be specially formulated in writing. Between application and decision a verbal proceeding may be interposed, this having a certain time limit. Adjournment of the proceedings is also provided for, so that actually not only one but several sessions may take place; so, also, the proceedings may take place before a referee.

It is true that also under the old law the judicial act (approval) might be preceded by a hearing, but this was purely discretionary with the judge. At present the hearing is obligatory upon demand of any relative or friend of the alleged lunatic, as well as being dependent upon the discretion of the judge. Furthermore, the formal requirements for the application as they exist to-day were absent in the old law. Above all, there was nothing about the necessity of notification;

\* Dr. Carlos F. Macdonald (*State Care of the Insane*, reprint from the *State Hospitals' Bulletin* for July, 1896), in reference to this law, says: "The writer in his official capacity has examined thousands of cases of alleged illegal detention without finding one in which the allegation was well founded. Moreover, during a period of twenty-six years of professional and official connection with the institutions for the insane in the State of New York, not a single authenticated instance of the commitment of a sane person from bad motives has come to his knowledge. And while it may be said that mistakes in the diagnosis of insanity, as in other diseases, occasionally occur, such mistakes are exceedingly rare, as shown by the hospital records, and when made, are speedily recovered and corrected."



finally, the judicial act of to-day, especially with its possible necessity of giving written reasons, can not be placed upon one plane with the old approval or the old informal manner of refusing such approval. After all this can there be any objection to characterizing the entire procedure as a piece of formalism? How obstructive such formalism may prove, if celerity in commitment is an object to be gained, every one may map out in his own mind. Of course, if the judge at the outset dispensed with every notification, if he would not require further proofs or order a hearing, and recognizing the application in its true sense would sign the order without delay, then all formalism would disappear, and very little difference between the old and the new law would exist.

But let us assume that the judge does not dispense with personal notification, or even that, in his opinion, the medical certificate is not sufficiently conclusive, and that, therefore, at least supplementary testimony should be taken. Then, of course, delay in every form is unobstructed. The faults of the new law then become so flagrant that nothing more need be said.

Now what chance is there, I must ask, that, according to the text of the law, the immediate granting of the application and issue of an order of commitment will be the regular course of procedure? In view of the spirit which is responsible for the existence of this law, and considering the number of precautionary measures which the law contains, the judge is in duty bound, if not to notify the patient directly, at any rate to do so through a third party, in order thus to preserve the essence of the law which provides for the protection of the personal liberty of the patient. Therefore I believe that the immediate granting of an application should and will be only exceptionally possible.

Of material moment, also, in considering this new law, is that from the judge's approval has been made the judge's order. This is by no means simply an alteration of name, but, as already indicated, the internment in an institution thus becomes fully and totally a juristic measure, and the province of the physician has been so constricted that the responsibility of the declaration of mental disorder does not any more lie with the physician, but does lie with the jurist. Yet, *a priori*, one would think that such internment was, in the nature of things, a medical question. Herein, also, we find a marked discrepancy between the law and the medical postulates.

If a theoretical consideration of the requirements of this law leads us to this conclusion, a practical consideration will prove to be still more detrimental to these medical postulates. With what spirit of antagonism the physician had to battle under a theoretically comparatively liberal law each of you has undoubtedly experienced. That certificates were not approved because both physicians were not personal acquaintances of the judge, although they in their certificate had

sworn to their being qualified examiners; that a judge would refuse an approval because a stuporous patient would not talk, and this fact was so stated in the certificate, which, however, called for what "the patient said"; and that a judge would refuse admission to his sanctum even, as soon as he became aware that his approval of a certificate of insanity was desired, on the ground that he "never signed such certificates," are situations in which I have been placed and in which each of you probably recognizes familiar phases.

That this spirit of opposition was a justifiable one has meanwhile been officially acknowledged by the increased stringency with which commitments are now surrounded.

The law now having become stricter, does any one believe that for this reason the judges will meet the medical views in a more liberal spirit of understanding? My experience of men and things would hardly lead me to so optimistic a conception. As especially prejudicial, when compared with the old system, we must regard the provision which takes away every method of procedure in case the application is refused, except that of appeal. This particular specification of the new law is the logical result of looking upon the entire commitment as a formal legal proceeding.

Under the informal old procedure, in case an application was refused by one judge, it was usually not difficult to find another who considered the papers perfectly satisfactory. Now, however, an application having once been formally made and refused, there remains no way of having the patient committed, except by means of a tedious appeal, which in formality even exceeds the original method of application. While this appeal is under consideration nothing can be done for the patient unless recourse is had to the police, thus knowingly placing the brand of criminality or disorder upon disease.\*

As especially characteristic of the entire law, I wish, finally, to call attention to the fact that, after all the provisions of the proceeding have been happily complied with, and the judge has "ordered" the commitment, the superintendent of the institution is empowered to refuse admission on account of any error of form in the papers.

I believe in the preceding remarks I have shown that the present law is entirely inadequate to represent the provisions which medically must exist in every commitment law for the insane.

Would that the eyes of the public could finally be opened to the fact that insanity is a disease and not a crime; that it differs from other diseases only in that in certain forms and at certain periods of the disease it

\* "Any person apparently insane, and conducting himself in a manner which in a sane person would be disorderly, may be arrested by any peace officer and confined in some safe and comfortable place until the question of his sanity be determined." The "safe and comfortable place," of course, in all such cases, is the police station.

renders the patient more or less incapable of recognizing his relationship to society, of realizing that his actions are due to disease, and of seeing the danger of his being left to his own care without danger to himself or to others. But all this does not furnish any reason why the disease should not be treated as a disease; and that the physician and not the jurist must be the one to decide whether disease is present or not, what its probable dangers are, and what mode of treatment should be pursued, is a fact which it should hardly be necessary to emphasize.

I am fully aware that personal freedom is a social right which requires the protection of the law in limitless measure, and therefore enters upon the domain of the jurist. In so far as healthy persons are concerned, I admit the jurist's exclusive sovereignty; but in disease the physician must at least be accorded a voice in the matter, inasmuch as the matter forms a specific part of his art and science.

It is certainly contrary to the nature of things to speak of endangerment of personal freedom where the ego is diseased, power of self-decision is lost, and care and control are necessary in order to enable the lost qualities to be regained. But even were it a limitation of personal freedom, by all means let this from time to time be sacrificed in order thus to save the entire personality. For precisely those acute cases for which the physician demands a rapid commitment to an institution, one unhampered by any legal formalism, are the ones in which prompt action may mean everything. These are the cases which I have specially in mind when I inveigh against the formalism of the new law.

I, personally, could find satisfaction only in such a law as would provide for the temporary (limited to a certain specified time) detention of patients, entirely unhampered by any judicial co-operation. Then as now, such certificate of commitment could be made out by two physicians legally qualified as examiners in lunacy (having practised three years, etc.), one of whom, however, should possess special psychiatric qualifications. In each individual case the relatives and the State Commission in Lunacy should be at once notified of the reception of such patient. During this period of temporary commitment free communication should be allowed verbally and by letter between the patient and outsiders, and now would, in my opinion, be the proper time for the introduction of whatever legal steps the jurist considered necessary. Finally, I will say that of course such legal steps should furnish the most ample guarantee possible against an unjustifiable prolongation of such temporary detention.

**The New York Celtic Medical Society.**—The regular monthly meeting was held on Thursday, November 26th. The order for the evening was as follows: A paper entitled *The Lymphoid Ring of the Upper Air Tract and its Relation to Health*, by Dr. Francis J. Quinlan; scientific communications, presentation of cases, and an exhibition of instruments and specimens.

## ON THE MODE OF PROCEDURE UNDER THE NEW LUNACY LAW OF THE STATE OF NEW YORK,

WITH SUGGESTIONS OF METHODS UNDER WHICH ITS PROVISIONS CAN MOST EASILY BE CARRIED INTO EFFECT, AND ALSO OF IMPROVEMENTS IN THE LAW ITSELF.\*

By RALPH LYMAN PARSONS, A. M., M. D.

THE paper recently read by Dr. Jacoby before the Neurological Society, and the discussion which followed, elicited the fact that many physicians consider the new lunacy law of the State of New York as unreasonably obstructive in its character; so much so, indeed, that some of the eminent physicians who joined in the discussion expressed the intention of hereafter refraining from placing their insane patients under legal care within the State.

If this view of the character of the law is well founded the interests of the unfortunate insane are so jeopardized thereby that the most strenuous efforts are demanded to secure its annulment or its modification.

It is a well-established fact that, as in many other diseases, so in insanity, the issue of life or death, of recovery or of lifelong mental impairment, often depends upon the promptitude with which the sufferer is placed under the most favorable conditions and under the most efficient care and treatment. And it is also a well-established fact that the promptitude with which efficient remedial measures are likely to be taken depends greatly upon the facilities which are afforded for the securing of such treatment, and on the absence of unnecessary formalities and obstructions.

Unfortunately, most persons who are afflicted with mental diseases, even in the milder forms, can be treated more efficiently and with better prospect of recovery when quite separated from their relatives and from their customary surroundings than in their own homes, however favorably situated their homes may be. But very naturally the relatives and friends of such persons are usually slow in realizing the truth and in consenting to place the invalid in the care of strangers; and the delay in taking the necessary steps is naturally increased with every additional formality and obstruction that may be placed in the way. The best condition of things, in the interest of these patients, would be the removal of all legal formalities whatever, allowing them to be placed under proper care and treatment precisely as a person ill with pneumonia or of a fever may now be placed in hospital care. But there are two special reasons which render this amount of freedom unadvisable. The first is in the interest of the mental invalid who may not understand that he is ill, or who may not be willing to submit to the needed care and treatment. In such case the will of another must needs be substituted for his own, and this requires the authorization of the law. The second reason why such free-

\* Read by title before the New York Neurological Society, November 3, 1896.

dom in placing uncertified mental invalids under compulsory care is unadvisable and even inadmissible in the interest of that great body of our citizens who are not insane; lest, possibly, some of these persons should be kidnapped and placed under restraint as a lunatic.

And it must be admitted that upon rare occasions some person who may be considered as technically sane does conduct himself in such a manner as to lead to the mistake of adjudging him a lunatic. It must also be admitted that, while these mistakes are very rare, and while the circumstances are such that serious harm is seldom if ever done, something must be conceded to the fears of a few oversensitive but influential individuals who demand protection against the possibility of such mistakes. But this concession should not be of such a nature as to jeopardize the interests of thousands of the insane in favor of a few persons whose mental status, at the best, may be considered as a doubtful one.

For example, about seven thousand insane persons are admitted to the hospitals for the insane of this State each year. Of this number, probably one tenth of one per cent. are cases in which the mental derangement proves not to be what is technically considered as insanity; as, cases of acute brain disease, alcoholism, etc.; and of these cases of mistaken diagnosis, for years past at least, all have manifested symptoms of a failure of mental integrity, and not a single one has been found to be a victim of malicious persecution or of improper motives.

And so it is of the utmost importance that the members of this society, together with the great body of medical men whose opinions, unfortunately, were not sought by the eminent legislators who were engaged in the revision of the law, should carefully study its provisions and method of procedure; to the end, on the one hand, that they may make its application as harmonious as possible, and, on the other, that they may exert their influence in procuring the correction of such faults as may be found to exist. And furthermore, if it is found that, with the most judicious management, a strict method of procedure under the present law is likely to prove prejudicial to the interests of the insane, there can be little doubt that the judges will be able and willing so to interpret its provisions as to remove or greatly mitigate any asperities that may be discovered, in case the defects in the law are properly brought to their knowledge.

The character of the law, as a whole, can be most conveniently studied by considering each of its provisions by itself.

The first provision, in logical order regarding the certification of the insane, is the petition. This is a form under which some person is required to take the initial step of requesting that an alleged insane person be placed under legal care; and in this petition the petitioner must state some reason why he thinks the cer-

tification should be made. Now this is a step that has always been taken, and that always must be taken in some way. Some person who is interested always does make a request, either to an officer of the State, or more likely to a physician, that the alleged lunatic be examined with reference to his mental condition. He makes this request or petition because he has reasons for making it; and any physician he might consult would certainly ask for and receive a statement of these reasons. The only difference, then, between what was done under the former law, in this respect, and what is required under the new, is the putting of the request or petition in legal form, and so making it a matter of record, in like manner as the certificate of the examining physicians is made a matter of record. In the revision of the law the legislators have probably had in mind the precedent furnished by the lunacy laws of England and of Scotland, in accordance with which a petition, made in due legal form, is the first step in the process of certification. Or, they may simply have thought that a request or petition was logically a step that should be made part of the record.

The question now is, whether this placing of the request or petition in legal form and making it part of the record is open to objections; and, if so, what the objections are, and how they may best be obviated.

It is clear that the petition can not increase the responsibility of the physicians. On the contrary, it must diminish their liability to suffer from suits for damages. But it is possible and even probable that, in some cases, the necessity of making a formal petition may deter friends of insane patients from seeking to place them under legal care as soon as they otherwise would do, so that great damage may thus be done to some of the insane by diminishing the probabilities of a cure. Ordinary delays are often prejudicial. Additional delays would serve to increase the danger. It may be said that invalids should not be allowed to suffer through a mere technicality or sentimentality. But things must be taken as they are, rather than as they ought to be.

The petition is liable to be a deterrent in three different ways: First, through an unwillingness to take the formal initiative; in the second place, through lack of knowledge how to make the petition in proper form; and, in the third place, through an unwillingness to seek the services of a lawyer in a case which seems to the petitioner, at least at this stage, as being purely medical in its nature.

The first of these possible deterrents can not be entirely avoided while the law remains as it is. But its force may be greatly diminished, if not entirely obviated, by showing that the petitioner always has and always must take the initiative; that it is a responsibility that he ought to take; and that the jurat does not really increase his responsibility.

The second and third of these deterrents may be



easily and entirely obviated by the medical examiners. When the petitioner calls in the services of the examiners, as he always must do, and when he has stated to them his reasons for seeking their services, they have only to write his statements in the petition in proper form, with a request that he have the jurat added by the most convenient notary. This will add little if at all to the labors of the examiners; for, in any case, they would keep a record of the pertinent statements of the petitioner. But, in addition, the examiners might arrange to have the jurat of the petitioner taken at the same time with their own, either at their office or at some convenient place elsewhere, thus relieving the petitioner of the annoyance even of seeking the services of a notary.

The suggestion has been made by the State Commission in Lunacy that "medical examiners are required to fill out only the certificate." But, while they are required to do this only, the statements above made may serve to show how physicians may remove obstacles which might seem serious to friends of patients with little trouble to themselves.

The next point for consideration is the personal service. The law directs as follows, to wit: "Notice of such application (or petition) shall be served personally, at least one day before such application, upon the person alleged to be insane," etc. The object of this provision was, undoubtedly, the prevention of the confinement of persons who were not insane, as lunatics, under the hypothesis that hitherto this has been an imminent danger. It may safely be assumed that medical men who are conversant with the subject will agree in the opinion that it was not needed; but the point that now requires especially to be considered is, whether it is likely to be prejudicial; and the answer to this question will depend very much on the interpretation that may be given to the provision, and on the disposition of the judges in regard thereto.

If the personal service regulation is interpreted to mean that a formal legal paper is to be served, informing the mental invalid that an application is about to be made to the court to have him declared a lunatic, and that he is to be placed in legal custody as such, the service of such a paper can be considered little less than an outrage. It would be a sort of citation to answer a legal charge of being a lunatic, and offensive as such. But certain lawyers, at least, have so interpreted the intent of the law. If this is the proper interpretation, medical men who are conversant with the subject can hardly fail to agree in the opinion that judges should, in almost every case, dispense with the personal service, on the ground either that the service would be injurious, or that it would be useless, because the patient would fail to understand its meaning. The mere pretense of serving such a paper, without the person served having an opportunity or the ability to get a knowledge of its contents, would be worse than an

evasion or a subterfuge—it would be a fraud. And it may be asserted with little fear of contradiction that very few lawyers or judges would be willing to serve such a paper on an intimate friend or on a member of their own family. It may be admitted, however, that in very rare cases indeed the service of such a legal paper, or even the formal trial of an alleged lunatic before a judge, may be of advantage to the patient. This would happen especially in incurable cases, which are sometimes classed as paranoiacs. But the same course might have been pursued under the former law.

If, however, personal service is interpreted to mean a verbal statement to the supposed lunatic that, in accordance with the advice of eminent physicians, measures were being taken to have him placed under medical custody and treatment at a specified place, or some equivalent statement, the personal service provision may not only be made harmless, but even advantageous, with the proviso that it be dispensed with in unsuitable cases.

It is probably not well enough understood that in the case of many of the insane a candid statement should be made to them of what is proposed to be done; that under the best medical advice it has been decided to place them in some specified hospital or under some specified care. This course tends to prevent a feeling that they have been unfairly dealt with, or that they have been deceived, and so renders them better satisfied with the care under which they may be placed. Otherwise they are apt to think that some mistake has been made, that they are unjustly and illegally detained; and so the moral influences that may be brought to bear upon them at the hospital may for a time be rendered nugatory.

But there are reasons in many cases why it is better to delay informing the patient of what is being done until his arrival at the hospital; to which he may often be taken without protest and without any explanation whatever. In the first place, the friends of patients may be so averse to having them informed of what is being done that they would neglect or refuse to seek such care and treatment as may be urgently needed. They may have fears lest the invalid should be excited and so injured by the information, or lest he should make a violent opposition which would be very distressing to other members of the family. And, in fact, these fears would often be realized. But many patients who would strenuously oppose removal to a hospital, if informed of it in advance, quietly accept the situation when they are once there, and are then informed of what is being done for them, as should always be the case when the patient has intelligence enough to appreciate what is being said.

A wise provision is made under the revised lunacy law whereby the judge may, in his discretion, dispense with personal service, by making a formal statement of his reasons therefor.

If, now, personal service be interpreted to mean the placing in the hands of the alleged lunatic of a legal paper informing him of the charge about to be made against him, there is likely to be little difference of opinion among competent alienists that the personal service should be dispensed with in almost all cases.

When personal service, however, whether formal or verbal, is dispensed with, the judge will naturally depend upon the medical examiners for the reasons on which his decision is founded. If a statement of these reasons by the medical examiners in the certificate should be considered satisfactory by the judges, as would seem probable, this method would have the merit of simplicity; and, moreover, the reasons of the medical examiners would constitute a part of the record in the body of the certificate.

Whenever personal service has been made, whether formal or verbal, it would seem that a statement of the fact in the petition should be a sufficient verification for the information of the judge. This procedure, moreover, would have the merit of simplicity, and of constituting a part of the record.

The procedure for the certificate of the medical examiners remains the same under the revised law as under the old, and hence does not require examination.

The order of hearing under the revised law does not differ essentially from the legal measures that might have been and sometimes were instituted, *de lunatico inquirendo*, under the old law, and so does not require consideration.

In regard to the functions of the judge, the revised law differs from the old in this, that now "the judge to whom such application is made may, if no demand is made for a hearing in behalf of the alleged insane person, proceed forthwith to determine the question of insanity, and if satisfied that the alleged insane person is insane, may immediately issue an order for the commitment of such person to an institution for the custody and treatment of the insane"; while the old law directed that "no person shall be committed to or confined as a patient in any asylum . . . except upon the certificate of two physicians, under oath, setting forth the insanity of such person"; and that "such certificate be approved by a judge or justice of a court of record." The discussion of the five-day clause is deferred until later on.

Now, whether the functions of the judge, under the revised law, are likely to increase the difficulties and cause harmful delays to be experienced in the process of placing mental invalids under needed care and treatment will depend in part on the interpretation given to the law, and in part on whether the judges are disposed to view the welfare of thousands of insane patients as of paramount importance, or whether they believe it to be the most important part of their duty to prevent the possible mistake of having a person who is technically sane adjudged a lunatic; an event which

is liable to happen under any possible method of procedure; for it will readily be understood that such mistakes could only be made in cases in which the person had acted more or less like a lunatic. And it is proper to state in this connection that none of the commissioners in lunacy of this State have ever found a case in which a sane person was declared a lunatic through improper motives.

The distinguishing point of difference between the wording of the new law and the old regarding the functions of the judge is that under the former he "may proceed forthwith to determine the question of insanity, and if satisfied that the alleged insane person is insane may immediately issue an order for the commitment of such person," while under the old law the judge approved the findings of the medical examiners; and this approval constituted the authorization for placing the insane person in hospital care.

It was certainly the intent of the old law that the judge should be satisfied of the insanity of the alleged lunatic. It was to this end that the evidences of insanity were written out in the medical certificate; and it was to this end that certain physicians were qualified as medical examiners, thus indorsing them as witnesses upon whose testimony and opinions the judges might rely. And this approval of the judge certainly had the effect of an orderly commitment. But it was not intended that the functions of the judge should of necessity be a trial of the case, although he had the power to "institute inquiry and take proofs as to any alleged lunacy before approving or disapproving of such certificate." And he might, "in his discretion, call a jury in each case to determine the question of lunacy." So far as appears, then, from the wording of the law, there is no substantial difference between the old and the new, in regard to the functions of the judges. And so it is quite within the sphere of their duty to make the procedure in lunacy cases quite as prompt and as little obstructive under the new law as it was under the old. Nor is there any sufficient reason to believe that the increase of formalities under the new law will induce judges to place obstructions where none, of necessity, exist; and especially when it is brought to their notice that obstructive delays are sure to be injurious.

If, then, the procedure for the commitment of insane persons to hospital or other care, under the revised lunacy law, can be put in practice in some such simple way as has been suggested, to wit, by the examining physicians undertaking the management of whatever pertains to the petition by including in the petition the statement that personal service has been made, if this has been the case; or by including in the medical certificate a statement of the reasons why personal service is considered unadvisable, if this is the case; and with the wise concurrence of the judges in avoiding such formal obstructions as are required neither by the terms of the law nor by the nature of the particular case in

question; there seems to be no reason why the procedure need be obstructive in its character, in so far as the actual provisions of the law are concerned.

But a provision of the old law which was very important in character has been omitted in the new—the five-day clause, under which a person who had been found by legal medical examiners to be deranged in mind might be placed and detained in a hospital for the insane for the term of five days before securing the approval of a judge. This provision was included in the law of 1874 at the suggestion of the Medical Superintendent of the New York City Hospital for the Insane, with the explanation that patients were sometimes received at the hospital in such a state of physical exhaustion that recovery was hopeless, but some of whom, at least, might have been expected to recover if they could have received proper care a little sooner. In some of these cases the attack had been sudden and severe, or had supervened during an attack of some other exhaustive disease; or, in other cases, friends had delayed placing them under proper treatment until exhaustion was imminent. The time required to find a judge and for legal formalities was sufficient to decide the question between recovery or death. And at that time the legal formalities were few. The necessity for some such provision was still greater in the country, where both hospitals and judges were often difficult of access. It was found also that this provision, which was intended for emergencies only, was of great use under less serious circumstances; as when the insane person was dangerously violent, or suicidal, or so noisy as greatly to disturb the neighborhood; or when he had no home or no friends to undertake his care. The five-day clause simply provided for legal, humane detention in a hospital, where proper treatment as well as care could be furnished; instead of detention without the authority of law at home, in a hotel, in a police station, or in some other place unsuited to the requirements of the case.

It should be stated, however, in this connection, that the five-day clause of the former lunacy law, which was intended by its originators for cases of emergency only, was not so understood by many physicians. They understood and made use of it as subserving purposes of mere convenience. Indeed, the practitioners of a neighboring city perverted its intent by uniformly neglecting to secure the approval of a judge at all, leaving it for the physician in whose care the patient had been placed to secure such approval. In the re-enactment of the emergency clause, then, it should be clearly stated that it is a provision for cases of emergency. The examining physicians should be required to state in the emergency certificate what the emergency is; and a copy of this certificate should be submitted to the judge when he is called upon to act in the case.

A little more than a year ago, when certain lawyers were urging the enactment of laws which should pre-

vent the kidnapping of sane persons and confining them as lunatics, or, at least, the prevention of mistakes in diagnosis, and who among other measures of prevention were urging the abrogation of the emergency clause, a circular letter was written to the medical superintendents of the hospitals for the insane of this State making inquiry whether they considered this provision as a useful one. Ten replies were received, and all of these replies were in the affirmative, and to the effect that the emergency clause should be retained as a part of the lunacy law. When physicians in general practice express this opinion, as they generally if not uniformly do, it may be alleged that they are interested in having the power to rid themselves of a particularly trying patient. But it can not be maintained by the most censorious that hospital superintendents are influenced by any such motives. The motives which impelled them to this opinion were evidently unselfish and humanely in the interest of the patients who came under their care; for the reception of patients under the emergency clause was a source of anxiety, lest the examiners should fail to secure the required approval in due time.

But the view that the emergency clause is a useful one is not confined to the physicians and the medical superintendents in the State of New York. This provision has been included in the lunacy law of England, enacted in 1890, and also in the lunacy law of Scotland. The English law is, in part, as follows, to wit: "In cases of emergency where it is expedient, either for the welfare of the person (not a pauper) alleged to be a lunatic, or for the public safety, that the alleged lunatic should be placed forthwith under care and treatment, he may be received and detained at an institution for lunatics, or as a single patient, upon an urgency order, made (if possible) by the husband or wife or by a relative of the alleged lunatic, accompanied by one medical certificate." Also, "an urgency order shall remain in force for seven days from its date."

The Scotch emergency provision is similar in character, but allows detention for three days only, without the usual legal order.

Inasmuch as the practice in this State for more than twenty years, the unanimous opinion of general practitioners, of examiners in lunacy, of State commissioners in lunacy, and of superintendents of hospitals for the insane of this State, and the practice both in England and in Scotland are in favor of a law authorizing the detention of alleged lunatics, in emergencies, for a certain period of time, it is incumbent on those physicians who are especially interested in the welfare of the insane to unite in urging upon the Legislature the re-enactment of the emergency clause of the lunacy law, with such modifications as may serve to prevent its abuse and give it definiteness of form.

And then, if the expectation is well founded that the judges of the State of New York will be disposed



so to interpret the provisions of the revised lunacy law that the mode of procedure shall be as fully in the interest of those unfortunate persons who are to become the wards of the State as was the mode of procedure under the former law, there can be little doubt that physicians will be able and willing so to act, direct, and manage as to protect their patients from harm and relieve the friends of their patients from undue anxiety and annoyance.

## Therapeutical Notes.

**The Abortive Treatment of Coryza.**—M. Lermoyez (*Thérapeutique des fosses nasales; Journal des praticiens*, October 17, 1896) recommends the following mixture, which is a simplification of Brand's:

R Pure carbolic acid,	{ each . . . . .	75 grains;
Ammonia water,		
Alcohol . . . . .	150	"
Distilled water . . . . .	225	"

M. S.: Ten drops to be poured on to blotting paper, and the vapor inhaled by the nose for a few seconds, every two hours.

Among the abortive snuffs, says the author, the following is excellent:

R Cocaine hydrochloride . . . . .	7½ grains;
Menthol . . . . .	4½ "
Salol . . . . .	75 "
Boric acid . . . . .	225 "

M. S.: A large pinch to be used every hour.

**Erodium Cicutarium as a Remedy for Uterine Hæmorrhage.**—According to the *Journal des praticiens* for October 31st, Komoroviez has employed an infusion of this geraniaceous plant (made from one part of the plant and twelve parts of distilled water) in the treatment of puerperal metrorrhagia and hæmorrhage due to uterine fibroids, and found it even more powerful than ergot. He gives the infusion in doses of a dessert-spoonful every two hours.

**The Local Treatment of Diphtheria with Sodium Hypsulphite** is recommended by H. A. Wickers (*Lancet*, June 6, 1896; *Centralblatt für innere Medizin*, October 31, 1896) as an adjunct to the general treatment. He employs a saturated solution, mixed with an equal amount of glycerin, to be applied to the diseased parts once or twice a day.

**Morphine, Atropine, and Chloral as Corrigents of Chloroform and Ether.**—Dr. E. Fraenkel (*Tagesfragen der operativen Gynäkologie*, 1896, vi; *Centralblatt für Chirurgie*, November 7, 1896) recommends the following formula:

R Morphine hydrochloride . . . . .	2 grains;
Atropine sulphate . . . . .	0.2 grain;
Chloral hydrate . . . . .	3.5 grains;
Distilled water . . . . .	210 "

M. From one to one and a quarter cubic centimetre to be given subcutaneously before beginning the anæsthetization. The author states that he has used this corrigent solution in thousands of gynaecological and obstetrical operations, without a single death or serious case of asphyxia due to chloroform and almost without any unpleasant effects of the anæsthetic.

## THE NEW YORK MEDICAL JOURNAL, A Weekly Review of Medicine.

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### THYREOIODININ.

In the *Münchener medicinische Wochenschrift*, 1896, No. 14, there are three articles on thyreiodinin—the first by its discoverer, Dr. E. Baumann, the second by Dr. E. Grawitz, and the third by Dr. A. Hennig. Abstracts of all of them are given in the *Centralblatt für innere Medizin* for September 19th. Baumann describes thyreiodinin as containing nitrogen and iodine in very stable combination and as being almost insoluble in cold water and in ether. It gives off no iodine hydride on being boiled with dilute acids. In this respect it has a remarkable resemblance to an iodine compound recently prepared by Drechsel from corals. Only a small amount of free thyreiodinin is contained in the thyroid gland, most of it being combined with albumin and globulin, but by repeated extraction with diluted chloride-of-sodium solution all the iodine compounds may be removed from well-minced glands. Since an effect is often seen earlier from thyreiodinin than from the fresh gland, it may be assumed that thyreiodinin is the active principle of the gland.

A curious thing mentioned by Baumann is the fact that numerous observations show that in Hamburg and Berlin the thyroid gland contains much more iodine than in Freiburg, as a rule, and that this is particularly the case with children, in whom the amount is relatively small. The quantity of iodine contained in the gland seems to be but little influenced by disease, but to be notably increased if iodine in any form is absorbed. Since only a very small amount of iodine is found in goitres, and since the amount found in the gland in goitrous regions is small, it seems probable, says Baumann, that the old doctrine of the influence of the quantity of iodine present in a locality—in the food, in the air, and in the water—on the development of goitre receives fresh support. Iodine is an element necessary to life, and if no marine fish are consumed, it must enter the system chiefly in the vegetable food.

Baumann has recently succeeded in finding iodine in the thymus of the calf, and he thinks it probable that in that organ also it exists in the form of thyreiodinin. In most instances, when the amount of thyreiodinin contained in the thyroid gland has once

been increased by the ingestion of iodine into the system it remains abnormally large for a long time. Ordinarily, therefore, a good deal of thyreiodinin is found in the thyroids of persons who have taken iodine for a time. This is true even of goitrous individuals, although usually the amount of iodine contained in a goitre is smaller than that contained in the healthy gland.

Grawitz's article is on the action of thyreiodinin on metabolism in obesity. Both he and Hennig have found it prompt and decided. Hennig's results with the remedy in goitre have not been constant, and he has observed no effect from it in exophthalmic goitre, but, on the other hand, certain affections of the skin and of the sexual organs have seemed to him to lie within the range of action of thyreiodinin. Among the untoward effects he mentions headache, attacks of dizziness, palpitation of the heart, tremor, increased frequency of the pulse, and temporary albuminuria and glycosuria.

#### SOME OF THE DIFFICULTIES OF CATHETERISM IN THE MALE.

DR. A. KOLLMANN has contributed an article on this subject to a *Festschrift für Benno Schmidt* recently published in Leipsic. An abstract of the article appears in the *Centralblatt für Chirurgie* for October 10th. The author deals with the hindrances to catheterism under normal conditions of the urethra, with no impediment in the way of urination. He refers them to the pubic symphysis, the middle layer of the perineal fascia, the sinus of the bulb, the prostatic sinus with the prostatic ring, and the trigonum vesicæ of Lieutaud, the most important of which, he says, is the sinus of the bulb. Among the circumstances which may lead to difficulty at this point is unusual sensitiveness of the mucous membrane of the part, contact of the catheter with which gives rise to spasmodic constriction of the membranous portion of the urethra, constituting the spastic stricture of authors. A point of greater significance is the amplitude of the bulbous portion of the urethra with an abundance of folds; and another is an unusual distance between the sinus of the bulb and the entrance to the isthmus.

As regards the folds and pockets of the remainder of the anterior urethra, the author agrees with Dittel and Grünfeld that importance is to be attributed only to the pocket on the upper wall of the fossa navicularis, often connected with a Morgagnian lacuna, and to the little rhaps of mucous membrane on the border of the Morgagnian crypts of the pars cavernosa. Occasionally the former is remarkably deep, so that the instru-

ment may catch in it; the latter can hardly prove a hindrance unless a fine flexible instrument is used. The same is true of the excretory ducts of the acinous mucous glands. In the normal condition of the urethra they are minute depressions invisible to the naked eye; under the influence of gonorrhœa, however, they may attain to a notable size, but never to a size sufficient for them to constitute an obstacle to the introduction of a rigid instrument. It has been in urethroscopy, says the author, and especially by the observations of Oberländer, Neelsen, and Finger, that the relations of the mucous glands of the urethra and the pockets and hollows partly connected with them have been made clear within the last few years.

Folds, pockets, and hollows of other sorts capable of hindering catheterism the author regards as very exceptional. He cites a case of Grünfeld's in which there was an opening in the posterior wall of the urethra, situated about three inches from the external meatus, that led to a submucous passage an inch deep into which an instrument as large as that numbered 15 on Charrière's scale could be inserted. He adds that a like instance has come under his own observation. On the lower wall of the urethra, in front of the bulb, there was a blind passage about half an inch deep, lined with urethral mucous membrane and opening anteriorly, which ran parallel with the urethra and readily admitted a No. 23 catheter. He thinks that such diverticula are not to be looked upon as acquired, but as congenital.

In one instance Dr. Kollmann has had the opportunity of observing a rudimentary pocket formation capable of constituting an impediment to catheterism, and of a kind that he has not found mentioned in endoscopic literature. This, too, he regards as a congenital formation corresponding in situation to the outlets of Cooper's glands, and the remark is made that in many dissections Henle saw the excretory ducts of these glands marked by little folds and pits. The author suggests that an examination with the urethroscope should not be begun at the bulb and carried forward toward the glans, but *vice versa*, to avoid overlooking certain pockets in consequence of closure of their entrances. He himself uses a special tube of his own contriving the free end of which is bent obtusely so that injuries may be avoided.

#### MINOR PARAGRAPHS.

THE ORTHOPÆDIC SECTION OF THE NEW YORK ACADEMY OF MEDICINE.

ON Friday evening, November 20th, Dr. James K. Young, of Philadelphia, read an important and valuable

paper On the Treatment of Lateral Curvature of the Spine by Light Gymnastics before this section. The discussion was participated in by Dr. E. H. Bradford, Dr. Augustus Thorndike, and Dr. John Dane, of Boston; Dr. De Forest Willard and Dr. H. Augustus Wilson, of Philadelphia; Dr. R. Tunstall Taylor, of Baltimore; and Dr. L. A. Sayre, Dr. J. D. Bryant, Dr. V. P. Gibney, Dr. J. Terchner, Dr. H. L. Taylor, Dr. S. Ketch, Dr. T. H. Myers, Dr. W. R. Townsend, Dr. L. W. Hubbard, Dr. H. W. Berg, Dr. R. H. Sayre, Dr. R. Whitman, Dr. A. B. Judson, and the chairman. Prior to the meeting the chairman of the section entertained the above-named gentlemen at dinner at the University Club. Others who had been invited were unable to attend. Among them were Dr. John Ridlon and Dr. F. S. Coolidge, of Chicago; Dr. A. J. Steele, of St. Louis; Dr. A. J. Gillette, of Minneapolis; and Dr. Roswell Park, of Buffalo.

## ITEMS.

### The New Vaccine Virus in Liquid Form prepared in the Laboratories of the New York Health Department.

Early in 1895 the vaccine laboratory of the health department was attached to the Division of Pathology and Bacteriology, and a detailed experimental investigation into all the methods employed in various parts of the world for the production and preservation of vaccine virus was immediately begun and has been continued to the present time. The choice and care of animals, the places, methods, and virus most suitable for inoculation into the animals, the time and manner of collection, and the preparation and preservation of virus after collection have all been subjects of study. In addition, the most notable vaccine laboratories in Europe and this country have been visited and their practice has been studied.

In consequence of the investigations, numerous modifications in the methods have been made, but the most important is the entire change in the form of the vaccine virus issued and recommended for use. Formerly the virus employed was the serum which issued from the base of a vaccine pock, dried on quills or ivory points. To determine the most valuable part of a vaccine vesicle, the following experiment was made: A typical vesicle was chosen and the crust, the underlying pulp and base, and the serum exuding after the former were removed, were collected separately. Each was mixed with glycerin in the proportion of sixty per cent. of vaccine matter and forty per cent. of glycerin, then thoroughly comminuted in a mortar, and the products were used in the multiple vaccination of children. The pulp showed by far the best, the crust the next, and the serum the poorest results, as determined by the percentage of successful vaccinations. Other similar experiments confirmed these results, and it was concluded that the largest proportion of the active virus was contained in the pulp. Therefore the virus now issued is in the form of a glycerinated vaccine pulp. The function of the glycerin is to produce a homogeneous mixture and to act as a safe antiseptic against germs accidentally introduced.

Although led by its own observations to adopt the liquid form of virus, the health department, in supplying such vaccine, is only following the example of all the best German, French, and other Continental vaccine laboratories, and it is believed that no other virus is more fully tested before being issued than that prepared in the laboratory of the New York city health department. The greatest care is taken to insure cleanliness in the production and preservation of the virus; all instruments and receptacles are sterilized and the operations of inoculation and collection made as nearly aseptic as possible.

Before using the virus derived from an animal, first, the animal from which it was obtained is sent to autopsy and the organs are examined for any evidences of disease; second, two samples of the virus are given, one to the bacteriologist, and the other to the medical tester of virus, and

no virus is issued unless the reports of the pathologist, bacteriologist, and clinical tester are all satisfactory. The clinical test consists in the inoculation of the virus after scarification in three places on each of five children who have never previously been vaccinated. There is thus a case test of five and an insertion test of fifteen points. The results from the new method with this rigid system of tests are shown in the records of the last three months. Since July 1, 1896, there have been vaccinated in the routine way thirty calves from which virus has been collected and tested as above described. All this virus gave one hundred per cent. case and one hundred per cent. insertion success at the original test, and the same percentages of success at the last retest made about October 1, 1896. There can therefore be no doubt that the durability of the virus is assured for at least three months from the date of collection.

Worthy of note is the fact that in all the primary vaccinations made during September and October by the department vaccinators, in which the results are known, more than seven hundred in number, there was not a single failure.

The virus is a syrupy, opaque, brown emulsion of uniform consistence. It is put up in convenient capillary tubes containing each enough for a single vaccination and in phials of two sizes, one containing one fifth of a cubic centimetre for ten vaccinations, and the other containing one cubic centimetre for fifty vaccinations.

In using the new virus the skin is scarified in the usual way, and a drop of the liquid virus (discharged from a capillary tube by blowing out the contents with a rubber tube furnished to facilitate this process) is then thoroughly rubbed into the scarified area with a slip of wood, which accompanies each tube. The new virus, like the other products of the health department laboratories, is furnished free to all public institutions in the city on application. Physicians can obtain the virus at many drug stores, or on application directly to the health department. The retail price of the capillary tubes is ten cents each.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 24, 1896:

DISEASES.	Week ending Nov. 17.		Week ending Nov. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	36	6	34	6
Scarlet fever.....	77	6	135	8
Cerebro-spinal meningitis...	1	0	2	2
Measles.....	63	3	81	3
Diphtheria.....	185	28	218	18
Tuberculosis.....	110	84	188	98

**The Twelfth International Medical Congress.**—The chairman of the American national committee of the Twelfth International Medical Congress, which is to meet in Moscow, Russia, from August 19 to August 26, 1897, has issued a circular stating that the committee consists, according to the directions of the general committee in Moscow, of the following gentlemen: J. S. Billings, M. D., New York; Frank P. Foster, M. D., New York; S. Weir Mitchell, M. D., Philadelphia; Charles A. L. Reed, M. D., Cincinnati; George B. Shattuck, M. D., Boston; F. J. Shepherd, M. D., Montreal; George F. Shady, M. D., New York; W. S. Thayer, M. D., Baltimore; and the chairman, A. Jacobi, M. D., No. 110 West Thirty-fourth Street, New York.

The chairman begs to invite the attention of the medical profession of the United States and Canada to the fact that the professional gentlemen in charge of the congress are anxious to make it a success both from a scientific and from a social point of view. Their difficulties are unusually grave; but it is not their fault that the congress had to wait for governmental permission to meet in their country, or that a special ukase was required for the admission into Russia of Jewish medical men on equal terms with their Greek, Catholic, Protestant, Agnostic, and Moham-



medan colleagues; or that the famous and meritorious secretary-general was—it appears because of his liberalism—ousted both from his place and from his professorship. They should not be held responsible for the political semibarbarism of the country in which they live and to whose laws they have to submit. Their position in the world of science and their endeavor to make the twelfth congress equal to its most famous predecessors will prove an incentive to American physicians to sustain, both by their presence and by their contributions, the Russian committee in its exertions to make the next congress equal to its predecessors. Such information as may be received from time to time will be published in the medical journals immediately after its arrival.

**The Richmond Academy of Medicine and Surgery.**—At the last regular meeting, on Tuesday, November 24th, the order for the evening included a discussion on puerperal eclampsia which was to be opened by Dr. J. N. Unshur.

**The Buffalo Academy of Medicine.**—At the last meeting of the Section in Obstetrics and Gynecology, on Tuesday evening, the 24th inst., the following papers were to be read: The *Ætiology and Pathology of the Albuminuria of Pregnancy*, by Dr. A. A. Jones; and *The Treatment of the Albuminuria of Pregnancy*, by Dr. Henry R. Hopkins.

**The Journal of Nervous and Mental Disease.**—The managers announce the following arrangement of the staff for 1897: Editors, Dr. Charles L. Dana, Dr. F. X. Dercum, Dr. Philip Coombs Knapp, Dr. Charles K. Mills, Dr. James J. Putnam, Dr. B. Sachs, and Dr. M. Allen Starr; associate editors, Dr. Philip Meirowitz and Dr. William G. Spiller; managing editor, Dr. Charles Henry Brown, No. 25 West Forty-fifth Street, New York, to whom all editorial and business communications should be addressed.

**Anatomy Laws versus Body-snatching** is the title of a valuable article by Dr. Thomas Dwight, Parkman professor of anatomy in Harvard University, published in the December number of the *Forum*. He insists on the need of rational and uniform dissection laws throughout the United States.

**The Royal University of Ireland** has conferred the honorary degree of M. A. O. (master of the obstetric art) on Dr. Thomas Mose Madden, of Dublin.

**The Death of Sir Benjamin Ward Richardson, of London**, is reported to have occurred on Saturday, November 21st, as the result of an attack of apoplexy that had befallen him on the preceding Wednesday. He was sixty-eight years old. He was a most ingenious physician and a voluminous and attractive writer.

**The Death of Dr. Eugen Baumann, of Freiburg**, the distinguished physiological chemist, best known of late for his discovery of thyroiodinin, occurred recently. He was not quite fifty years old.

**Changes of Address.**—Dr. Daniel Lewis and Dr. Charles L. Ogden, to No. 252 Madison Avenue, New York; Dr. A. M. Phelps, to No. 62 East Thirty-fourth Street, New York.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 21, 1896:*

ARNOLD, W. F., Passed Assistant Surgeon. Detached from special duty and ordered to the U. S. Steamer Enterprise.  
HIBBETT, C. T., Surgeon. Detached from the U. S. Steamer Independence, ordered home, and granted three months' leave of absence.  
MAGRUDER, A. F., Surgeon. Detached from the Marine Barracks at Washington and placed on the retired list.  
MOORE, J. M., Passed Assistant Surgeon. Detached from the U. S. Steamer Texas, December 7th, and ordered to the U. S. Steamer Castine, December 8th.

OLCOTT, F. W., Passed Assistant Surgeon. Detached from the U. S. Steamer Enterprise and ordered to the U. S. Steamer Independence.

PALMER, S. B., Assistant Surgeon. Detached from the U. S. Steamer Vermont and ordered to the U. S. Steamer Texas.

SAYRE, J. S., Passed Assistant Surgeon. Placed on the retired list. November 16th.

STONE, L. H., Passed Assistant Surgeon. Detached from the U. S. Steamer Castine, ordered home, and placed on waiting orders.

WALTON, T. C., Medical Director. Detached from the Naval Academy, December 15th, and ordered to the Naval Laboratory.

WELLS, H. M., Medical Director. Detached from the Naval Laboratory at New York, ordered home, and placed on waiting orders.

#### Promotions.

CRAIG, T. C., Passed Assistant Surgeon, to Surgeon, from October 14th.

LEACH, P., Passed Assistant Surgeon, to Surgeon, from November 15th.

#### Society Meetings for the Coming Week:

MONDAY, November 30th: Boston Society for Medical Improvement.

TUESDAY, December 1st: New York Neurological Society; New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Herkimer (semiannual)—Herkimer) and Saratoga (Ballston Spa), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Leviston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, December 2d: New York Academy of Medicine (Section in Public Health); Harlem Medical Association of the City of New York; Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, December 3d: New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Cuyahoga, Ohio, County Medical Society.

FRIDAY, December 4th: Practitioners' Society of New York (private); Baltimore Clinical Society; St. Louis Academy of Medical and Surgical Sciences.

SATURDAY, December 5th: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); West End Medical Society, New York; St. Louis Medical Society; Miller's River, Massachusetts, Medical Society.

#### Births, Marriages, and Deaths.

##### Married.

CAPWELL—BRAYTON.—In Worcester, Rhode Island, on Thursday, November 19th, Dr. Remington Pendleton Capwell, of Slatersville, Rhode Island, and Miss Sarah Paine Brayton.

CLENDENIN—OSGOOD.—In Boston, on Thursday, November 19th, Dr. Paul Clendenin, of the United States Army, and Miss Harriet Brown Osgood.

EMMET—GARLAND.—In New York, on Wednesday, November 25th, Mr. Robert Emmet, son of Dr. Thomas Addis Emmet, and Miss Louise Garland.

**FARRELL—SMITH.**—In Providence, Rhode Island, on Tuesday, November 17th, Dr. John T. Farrell and Miss Louise Allen Smith.

**JOHNSON—STINSON.**—In Canton, Mississippi, on Wednesday, November 18th, Dr. McWillie Johnson, of Kirkwood, Mississippi, and Miss Kate Stinson.

**MACARTHUR—BURDICK.**—In Chicago, on Tuesday, November 24th, Dr. Robert Archibald MacArthur, of Baltimore, and Miss Mary Amelia Prescott Burdick.

**QUIGLEY—GAYNOR.**—In New York, on Wednesday, November 25th, Dr. John J. Quigley and Miss Susan Ruth Gaynor.

#### *Died.*

**GRAHAM.**—In Philadelphia, on Thursday, November 12th, Dr. James Graham, aged fifty years.

**HAYWARD.**—In Cambridge, Maryland, on Tuesday, November 10th, Dr. William Richard Hayward, aged seventy-nine years.

**MERRIGAN.**—In New York, on Saturday, November 21st, Celia Merrigan, wife of Dr. Thomas D. Merrigan.

**PATTERSON.**—In Staunton, Virginia, on Tuesday, November 10th, Dr. Henry M. Patterson, aged sixty-six years.

**POTTER.**—In Rochester, N. Y., on Tuesday, November 17th, Adaline L. Potter, wife of Dr. Darwin Potter.

**RICHARDSON.**—In London, England, on Saturday, November 21st, Sir Benjamin Ward Richardson, M. D., in the sixty-ninth year of his age.

**SASS.**—In New York, on Thursday, November 19th, Dr. Luis F. Sass, in the seventy-seventh year of his age.

### **Proceedings of Societies.**

#### **SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.**

*Meeting of October 14, 1896.*

The President, Dr. R. C. NEWTON, in the Chair.

**Fibroids of the Uterus.**—Dr. BROOKS H. WELLS presented two specimens of uterine fibromata. In the first case the patient had long been vainly treated for sciatica. Finally, beginning to have difficulty in urinating and severe pelvic pain, she had called in another physician, who had found a pelvic and abdominal fibroid, and had sent her to the speaker at the Polyclinic Hospital. Examination had shown an immovable tumor extending from the umbilicus to the perineum, and closely filling the pelvic cavity. Tumor and uterus had been removed by abdominal hysterectomy. The adhesions had been numerous and dense. The bladder had extended over the front of the tumor to the umbilicus and had been accidentally opened in making the abdominal incision. The rent had been immediately sutured, and had given no further trouble. Recovery had been uneventful.

The second specimen had been removed post mortem by Dr. Newton, of Montclair, N. J., from a patient dead from cardiac disease. It had caused no symptoms during life. It was an interstitial fibroid with numerous pedunculated subperitoneal nodules.

**Intestinal Resection.**—Dr. WELLS also presented a portion of gangrenous intestine removed from a boy, ten years of age, who had had severe colic and vomiting after gorging himself with raw green corn, cucumbers, and overripe bananas. After the stomach had been emptied he had been given a dose of castor oil, and directions had been left to call the doctor the next day if all was not right. Thirty hours later the speaker had been

sent for, as the boy's bowels had not moved, and he had found the child in collapse with marked symptoms of intestinal obstruction and general peritonitis. He had been sent at once to the Polyclinic Hospital and the abdomen opened. It had contained a large amount of bloody serum. There had been no intussusception or volvulus, but a section of the lower portion of the small intestine had been gangrenous. This had been removed and a circular enterorrhaphy done. The boy had died a few hours later. The section of gut had been found to be twenty-one inches long. Cases of this nature were always desperate.

Dr. GEORGE H. MALLETT thought the pain that accompanied fibroids of the uterus was dependent entirely upon the location of the tumor. Oftentimes the larger ones produced the least symptoms. He spoke of a patient that he had recently seen at the clinic. She had been sent by a physician who had been treating her for disease of the stomach. She had complained of absolutely no pain, but her abdomen had seemed enlarged. Upon examination, a tumor as large as a man's head had been found in the abdomen. The speaker had recently removed a uterus which was little larger than a man's fist. It had been wedged down in the pelvis, and the patient had suffered intensely for a long time.

Dr. ALVAH M. NEWMAN asked if it would not have been easier to remove the fibroid through the vagina.

Dr. WELLS thought not; the fibroid had reached from the perineum to the umbilicus; it would have been almost impossible to reach it from below.

Dr. THEODORE W. CORWIN thought one point of interest was the relation of sciatica to the tumor. He had attended a case of sciatic pain a few months ago, very severe and obstinate, and without associate symptoms to point to any other trouble than the nerve. He had given the patient the usual treatment for neurotic sciatica, and then, as the pain had persisted, had made an examination through the vagina, and had found a retroversion of the uterus with a little lateral flexion. With relief of these by supporting measures, the sciatica had been relieved. Later on, an operation for fixation of the uterus to the round ligaments had been done by Dr. Ill, of Newark, N. J.

Dr. ADOLPH RUPP asked if the sciatica had been cured by the removal of the fibroid.

Dr. WELLS said that four weeks had passed since the operation, and the patient had not complained of it. The only complaint she had made was that she had not been given enough to eat. On the fifth day she had wanted boiled ham and cabbage. She had had no pains since the operation. The tumor had been large enough and the pressure sufficient to cause the sciatica.

Dr. PHILIP ARTHUR MALLESon spoke of a case that he had had some years ago, of a woman about six months and a half pregnant, where the sciatica had been so intense that it had been determined, after exhausting all other methods, to evacuate the contents of the uterus, because it was perceptibly tilted to the side on which she had the sciatica. The uterus had been emptied and the sciatica had disappeared.

The PRESIDENT spoke of a case that he had seen in a man who had had locomotor ataxia. The attending physician had told the family it was an obstinate case of sciatic rheumatism.

**Appendicitis.**—Dr. D. E. WALKER presented a specimen consisting of the vermiform appendix, a piece of omentum, and a concretion which he had removed.



The patient had come to the speaker complaining of pain at the ensiform cartilage and some nausea, without any previous constipation. He had previously been given a dose of castor oil, which he had vomited without change six hours afterward. The speaker had examined him, but had not found, though he had suspected, appendicitis. The abdomen had been somewhat distended, but there had been no tenderness in the region of the appendix. He had sent the patient to bed and had given him some small calomel tablets. The next day the belly had been lax, and he had detected an enlargement of the appendix. The patient had had no pain in that region, but there had been marked tenderness. The speaker had advised an operation, and, pending his decision, had left, with directions to let him know if the patient vomited. The next morning the patient had had agonizing pain in the abdomen, and the temperature had gone up. The temperature before this had not been above 99°. The operation had been at once performed and the appendix taken out, with a concretion at its centre. A small piece of omentum had been attached, forming one side of an abscess which had burst into the peritoneal cavity. There had been general peritonitis. The special point in this case was that the only symptom of pain the man had had had been in the region of the ensiform cartilage, probably caused by the omental involvement. There had been no pain since the operation. He emphasized the fact that whenever a tumor was found the best thing to do was to operate.

The PRESIDENT asked if this was a primary attack.

Dr. WALKER said the man had given a history of several bilious attacks with gaseous distention of the stomach. These had always been controlled with small doses of calomel and had been probably caused by the appendix. The extremity had been rather black-looking, and had appeared almost gangrenous when it was taken out.

Dr. RUPP asked if the symptom of vomiting had decided the question of operation in the case presented. The speaker had treated a case of recurrent appendicitis in which the temperature had been low, the peritonitis general, an evident tremor in the appendicular region, and vomiting intermittently. The patient had recovered without operation, under opium, poulticing, and dieting. He had been advised to consult a surgeon concerning a prophylactic operation, but this he had not done.

Dr. WALKER said that the reason he had given the family directions to send him word if the patient vomited was that usually there was vomiting when the abscess burst, and he knew that it had not burst then. Repeated vomiting, a rapid pulse, and distended abdomen were signs that the tumor had burst, and indicated immediate operation. When the speaker had found that the tumor had burst, he had decided that the only chance was an operation. The patient had had general peritonitis and there had been no other chance of his recovery. Vomiting alone was not always an indication for an operation. The main thing was to find the tumor. The speaker depended more on the character of the pulse than on the temperature, because one often found a very low temperature in these cases.

**Two Fatal Cases of Heart Disease, Unrecognized during Life, with Morbid Specimens.**—The PRESIDENT showed two specimens of diseased hearts that had not been diagnosed in life. The first specimen presented had been taken from a man about fifty years of

age. The man had been apparently in perfect health. He had been quite stout and had objected to walking up hill, as he had suspected that his heart was not all right. He had attended to his business every day. One night, as he was riding home in the railroad train, his head had fallen forward on his breast, and he had died. The family had insisted on an autopsy, of which the record was as follows: "Autopsy made eighteen hours after death. Considerable subcutaneous sufflation. Rigor mortis only moderate. Head not examined. Chest: Muscular tissue interspersed with fat; costal cartilages generally ossified and cut with difficulty; lungs apparently healthy; no pleuritic adhesions except over the left upper lobe anteriorly. Heart very large; pericardium containing six or eight ounces of clear, brownish-yellow serum; inner surface of pericardium somewhat thick and rough (old pericarditis). Heart both hypertrophied and dilated, externally freely covered with fat; muscular substance pale and containing streaks of whitish-appearing substance, which was fibrous tissue from chronic myocarditis; of the right ventricle, the wall was nearly entirely fat, and fat had encroached upon the muscular substance at the apex of the left ventricle. The mitral orifice would admit four fingers of a large hand nearly up to their metacarpophalangeal articulations. There were some patches of atheroma upon the aortic valves and on the inner surface of the lower portion of the arch, also extensive atheroma of the coronary arteries. The heart cavities were empty. There were no blood clots found in the body; in fact, there was very little blood in any part of the body. The spleen was large and soft. Liver not removed; was congested, apparently otherwise normal. Kidneys both removed; great amount of perinephric fat; they were of medium size. Fetal lobulation still present; increased connective tissue. Substance hard and containing here and there small cysts as large as a swan shot. There was chronic interstitial nephritis. Cause of death, heart failure from chronic myocarditis."

The second specimen was that of a diseased heart and uterus taken from a single woman, forty-four years of age, rather spare in habit. She had been a hard-working woman all her life, but had never had any serious illness. Before coming to the hospital she had been feeling miserable for some time, and that morning, on rising, had fainted; when admitted she had been much prostrated; temperature, 98° F.; pulse, 120; respiration, 32. The diagnosis which accompanied her had been neurasthenia. She had died forty-eight hours after admission. At the autopsy, in the heart had been found almost complete obliteration of the mitral orifice. The aortic valves had been entirely calcareous and immovable, and the blood had had to pass through a slit that would scarcely more than admit a knife blade. There had naturally been extreme dilatation of both auricles.

Dr. WALKER spoke of a case that he had seen in the hospital, that had ended fatally a few hours after the patient had been brought in. The autopsy had revealed aneurysm of the wall of the heart. There had been no previous diagnosis of heart disease.

Dr. RUPP asked if the brain had been examined in the cases reported.

The PRESIDENT said they had not been.

Dr. RUPP asked if death had been attributed to the heart.

The PRESIDENT said that it had been.

Dr. RUPP said that one might reasonably differ



from Dr. Newton's opinion concerning the specimens and diagnoses presented. It seemed to the speaker that often, as in these instances, too much importance was attached to heart abnormalities in cases of sudden death. The heart was not an independent organ, however important its functions were as a transmitter of blood between the incoming and outgoing currents. He thought that other causes for the sudden deaths in these cases might have become evident if the search had been allowed to be more thorough, especially in the case of the man who had always been a hard worker, in apparent good health up to the time of his death. Why not in this case think of a sudden cerebral hæmorrhage as well as of heart disease?

The PRESIDENT stated that the family had not wished the brain examined, and he had been satisfied that the condition of the heart had been the cause of death.

Dr. RUPP said he knew a man who had a double mitral murmur, who got along very well, although he was stout. This man was healthy and had been passed as such by several examining physicians for life-insurance societies. It was reported that some London insurance companies were not now so severe in excluding candidates for insurance simply because of an abnormal cardiac murmur. Other conditions on which the well-being of the heart depended were, as they should be, taken into the reckoning: the digestive apparatus, the genito-urinary apparatus, the condition of the blood-vessels and of the lungs. There were some cases of so-called angina pectoris which could not properly be called heart disease any more than one would speak of ear disease when pain was reflected or deflected into an ear from a diseased tooth. In illustration of these remarks, he spoke of a man over sixty years of age who had never had heart trouble or symptoms or signs indicating such, and this man had died suddenly. This man had been overcome by adverse business complications and family worries. Twenty and thirty years before he had had small-pox and yellow fever. He had always been a temperate man. He had died of nervous exhaustion, and the angina pectoris in his case had been but the local explosion of undistributed nervous force. Pathological anatomy and clinical experience did not always coincide.

Dr. HENRY H. SCHROEDER, to illustrate how patients with very serious heart lesions might sometimes live for a considerable length of time, spoke of a case of his that he had examined about three years ago, where there had been a great deal of dilatation and a most erratic heart action, which was very intermittent, irregular, rapid, and weak, so much so that he had told the man's wife he could hardly expect to live three months. Yet the man was still alive in spite of intemperate habits. He had been surprised to hear that the conservative English life-insurance companies were accepting risks with heart murmurs, as the American companies, noted for being more progressive, refused such applicants.

The PRESIDENT spoke of examining a man for insurance who had been told when a boy that he had mitral regurgitation, and the speaker could find nothing the matter with him. In regard to life-insurance companies, he thought no company would, under any circumstances, accept a man who had an organic heart murmur, and inasmuch as it was never quite possible to distinguish organic from functional murmurs, no good life-insurance company would accept a risk with any heart murmur.

Dr. RUPP said he referred to organic and not so-called functional murmur. Organic murmur might exist in a perfectly healthy body. By itself, it might be no evil; in connection with other pathological conditions its presence might be grave.

(To be continued.)

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in St. Paul on Tuesday, Wednesday, Thursday, and Friday, September 15, 16, 17, and 18, 1896.*

The President, Dr. HENRY O. WALKER, of Detroit, in the Chair.

(Concluded from page 694.)

**Pleuritic Effusions and their Treatment.**—Dr. GUSTAVE FÜTTERER, of Chicago, thought that a bacteriological examination should be made in all cases, with cover glasses, with culture media, and by injections of the effusion in animals. We must distinguish between exudate and transudate by using the acetic-acid test, and by the same process eliminate mucin. Many cases of pleurisy were due to the uric-acid diathesis. These would yield readily to treatment with the salicylates. He believed that not more than fifteen per cent. of pleuritic patients were rheumatic. The presence of pneumococci did not aggravate the condition, and often gave no very distinct symptoms. Tubercle bacilli were often found in pleuritic effusions. He believed it was not only possible but likely that the tubercle bacilli did penetrate through the alveolar septa, and enter the pleura without producing infection in the lungs. Tuberculosis might be distinguished by the agar culture. Hyperæsthesia of different parts was frequently present.

He had washed out the cavity in fourteen cases with an antiseptic solution of from one half to two per cent. of clove oil, with most gratifying results in twelve of the cases. The advantages of this method were: Many patients would allow such an operation who would object to excision of a rib; there were no bulky dressings constantly interfering with the comfort and convenience of both patient and physician; and a much shorter time was required.

**Nerve Suture and other Operations for Injuries to the Nerves of the Upper Extremity.**—Dr. A. J. OCHSNER, of Chicago, said that his own observations and a study of the literature on this subject had led him to the following conclusions: 1. every severed nerve should be sutured, even after a number of years. 2. The earlier the operation was performed the better. 3. If neither sensation nor motion was established within a year, the nerve should be exposed anew, the cicatricial tissue removed, and the ends again sutured. 4. The end should be clean cut and should contain neither crushed nor cicatricial tissue. 5. Tension must be avoided. 6. The wound must heal without suppuration to secure the best results. 7. Hæmorrhage should be perfectly controlled to prevent an intervening clot. 8. Carefully prepared catgut was the best suture material. 9. After suturing of the ends, either directly or at a distance, it was well to stitch a fold of fascia over them. 10. The limb should be placed at rest. 11. The external incision should be ample.

**Woman and her Diseases versus Gynæcology.**—Dr. HENRY P. NEWMAN, of Chicago, thought that we were

coming to a period of transition in the practice of surgical gynaecology; instead of essays on the treatment, we now had studies on the cure and prevention. Preventive medicine, hygiene, sanitation, and sociology were now popular themes for medical societies. Philanthropy had taken the cue from medicine, and was attempting to form a citizen rather than reform him. He emphasized the fact that we were not dealing with the "cold-science" side of our art, but with the highest of human interests. The amount of ignorance of Nature's requirements shown by the average woman was appalling. Woman's sphere had lately widened until now it was as wide as man's. Had she equipped herself for this race intelligently? Look at the average women in the cities—the stenographer, the saleswoman, the business woman—did they not daily outrage their bodies by compliance with the dictates of fashion in food, dress, and habits? The tendency of gynaecologists to enter surgery was to be deprecated. It narrowed their opportunities. They had better stay attached to obstetrics and pædiatrics. A woman's generative organs should not be doomed because she needed to visit the gynaecologist. A good diagnostician must know as much about women as about disease, as much about environment and social and domestic relations as about pelvic lesions. As specialists, we must recognize the medical science which would prevent rather than cure disease. As we knew that what could be acquired might be prevented, we as specialists should lead in the reform of those conditions which were detrimental to the health of women.

**The Pathology and Treatment of Suppurative Salpingitis.**—This was the title of a paper by Dr. F. F. LAWRENCE, who remarked that the tubal mucosa was a true mucous membrane, possessed of all the histological elements of mucous membrane. The fimbriæ were prolongations of the folds of mucous membrane, with a few muscular fibres beyond the end of the tube.

The closure of the end of the tube was effected by, first, the unfolding of these plicæ and the elongation of the muscular fibres, with coincident inflammatory exudate, and not by adhesions of the peritoneal surface; second, the formation of adhesions between the fimbriæ and other structures; third, imbedding of the fimbriæ in inflammatory exudate. Closure of the tubal ostia resulted in the formation of circumscribed abscess. Occasionally the uterine end of the tube remained patent, when the abscess in the tube communicated with the uterine cavity, through which it might in part discharge its contents. The treatment of suppurating tubes could not be fixed by any rigid rule. Each case must be treated according to the conditions it presented. We must incise and drain in some cases. Seldom would vaginal section be required, and only in carefully selected cases. Hysterectomy was indicated in cases where we found abscess of the uterine wall, tuberculous deposits, fibroids, or malignant disease in the fundus. Hysterectomy should never be performed except where there was some tangible lesion of the uterus. Abdominal section would be necessary in many cases.

**The Importance of Physical Signs other than Murmurs in the Diagnosis of Valvular Disease of the Heart.**

—Dr. JAMES B. HERRICK, of Chicago, said that standard text-books taught that an endocardial murmur was not always an evidence of a valvular lesion, and also that a valvular defect might exist and still no murmur be present. Practically, however, conclusions were usu-

ally based upon the presence or absence of a murmur. This was wrong, for there might be valvular disease without a distinct murmur being audible. Other signs than a murmur must be used in determining the existence of a valvular lesion. Every valvular lesion must result in hypertrophy and dilatation of the heart behind the valve diseased. An increase in tension of the pulmonary circulation followed any valvular lesion at the mitral orifice, and later any aortic disease. This would show in increased force of the pulmonic second sound. Stenosis of the left orifices of the heart meant a smaller amount of blood in the general arterial circulation, therefore lessened arterial tension. Failure of the right heart was followed by venous congestion, causing a venous pulse, hepatic and portal congestion, anasarca, etc. Hypertrophy might be recognized by the heaving, forcible apex impulse. Epigastric pulsation might call attention to enlargement of the right heart. The jugular, the hepatic, and the capillary pulse were all of diagnostic value. The visible pulse of aortic regurgitation was almost pathognomonic. Palpation was important. Extracardiac causes of a murmur, such as might arise in a heart displaced by pressure or retraction, could usually be excluded by percussion. A weak aortic sound might be an indication of obstruction. The reduplicated second sound might point to valvular disease. A sharply accentuated first sound at the apex was common in mitral stenosis. The peripheral tones in aortic regurgitation were a valuable confirmation. The error of calling an inorganic murmur organic was readily made, unless the secondary sounds were carefully sought for. Dr. Herrick did not undervalue the importance of endocardial murmurs, but insisted that it was only by the complexus of signs and symptoms that an accurate diagnosis could be made. Of all the evidences of heart disease, the least valuable was the endocardial murmur.

**The Value of Secondary Physical Signs in the Diagnosis of Cardiac Diseases.**—This was the subject of a paper by Dr. R. H. BABCOCK, of Chicago. Murmurs were the least reliable signs of valvular disease. An accurate diagnosis could not be made unless the secondary signs of valvular disease were recognized. If the heart's action was not sufficiently strong there might not be any murmur, or a grave defect might not be observed for the same reasons. Secondary symptoms were modified pulse rate, character, and rhythm, leading to congestion of the veins and internal organs. In some instances there was also systolic venous pulsation of the liver. Systolic jugular pulsation was diagnostic of insufficiency, even if a murmur was not audible.

**Water.**—Dr. I. N. LOVE, of St. Louis, read a paper thus entitled. Drugs, he said, seemed to be the chief inspiration in the life work of too many men. Hydropathy had been of wonderful service to humanity. We could appreciate the necessity of water when we remembered that seventy-five per cent. of the body was made up of water. It was just as important as the solids in life's conditions. The demands for water were affected by the amount of muscular exercise and the degree of temperature to which the body was exposed. For an irritated stomach or bilious colic nothing was superior to liberal quantities of hot water. For "a night out" nothing was superior to two or three cups of hot water, along with a cup or two of hot coffee. It soothed the nervous system if we abstained from food a few hours. We needed water for nutrition and,



what was more important, for proper elimination. Water taken freely acted as a purifier of the system, both by flushing and by its solvent action. The majority of people drank too little water. He strongly advised training children to drink more water. It was a most important agent in improving the complexion. Medicine should be given in large quantities of water. In typhoid fever he insisted upon the free drinking of pure water. No solvent would act better in removing uric acid from the system. The only pure water was distilled water. Copious draughts of water for its stimulating effect or the reduction of temperature had been used many years. The hot pack in the convulsions of children was often misused. It was better to begin with a tepid heat and add cold water gradually. Hot water applied locally in inflammatory conditions was most excellent.

Dr. MANLEY, of New York, thought that if we only realized what could be accomplished with water in a medicinal way, its use would be more general. He was much impressed with the fact that many of the bowel and bladder conditions could be most effectively treated by the proper use of water. In the case of cystitis he knew of nothing that would take the place of water. He had often thought that the surgeon's knife might be laid aside if he knew how to use water. A large number of the cases of perityphlitis, in his opinion, might be relieved by a thorough washing out of the bowel.

Dr. HUGHES, of St. Louis, said that water was good not only "the next morning," but all the time. Its value had not been overdrawn by the author or in the discussions. He was opposed to limiting the amount of water used at and during the mealtime. Its action was not only eliminative, but stimulating to both kidneys and bowels. He recalled the time when the profession went to the other extreme concerning this subject, and said they considered the craving for water by the patient as abnormal. Some of us had repudiated water too much and too long.

Dr. STUCKY, of Louisville, remarked that he could not give a "next-morning" experience like his predecessors, but he would say a word in favor of hydrotherapy. He took issue with the author on the idea that large quantities of water should be taken along with the food. He could not see how it would increase or aid in the digestive function in the stomach, but its importance after digestion could not be overrated.

Dr. BABCOCK, of Chicago, thought that in some cases of Bright's disease a sufficient quantity of water might have prevented the condition. If the bowels were constipated and the skin was dry, increased water was thrown upon the kidneys. Professional men, men of sedentary habits, and women would often escape the severity of Bright's disease by the unlimited use of water.

Dr. HENDERSON, of St. Paul, inquired whether or not the taking of large quantities of water would increase the fat formation. Did the fat man take water because he was fat, or was he fat because he took water? He himself was a lean man and did not drink water, except in the morning.

Dr. TURCK, of Chicago, said that the first indication was to find out what the pathological conditions were which we were trying to meet by the water treatment. We must know the condition of the stomach before advising the ingestion of large quantities of water. The habit of taking great quantities of water into the

stomach, even two hours after a meal, would hinder the process of digestion. On the other hand, if there was an accumulation of material on the walls and other viscera, then the taking of water would not be objectionable.

Dr. LOVE said, in regard to Dr. Henderson's question, that what was taken into the stomach was food and became nutrient and led to development, continued health, repair, and elimination; in these processes water had an important part, if taken in the right way. He did not advise that large quantities of water should be taken while a person was eating; moderate quantities, of course, were meant, and they could not possibly interfere with the digestive processes.

**The Relationship of Diagnosis to the Future Surgical Progress.**—This was the subject of an address on surgery, by Dr. HORACE H. GRANT, of Louisville. Some common ground, said Dr. Grant, must be chosen on which we could equalize our differences. Many of the most recent operations were already passing away under the effect of our modern scrutinizing investigation. We forgot there were men in the quiet of their laboratories doing a work which made all our wonderful progress possible, and gave us these new methods. We could not progress much further in technics or operative skill. Any great amount of paraphernalia suggested a lack of personal resource in the operator. Almost every part and organ of the human body had been removed recently with more or less good to the patient. If we would make earlier and more careful diagnoses many of the possible failures would be precluded. No surgeon dared to say to the patient: "If I had known yesterday or the day before thus and so, the result would have been different." Were we not at fault sometimes ourselves? Rarely should we fail to secure an operation if the operator was certain of his diagnosis and demanded the operation. No term in all surgery was so often misapplied as conservatism. No aim was dearer to the surgeon than the ways and means of relieving his patient. The skiagraph had lately come into importance in surgical work, and it might be made an excellent adjunct in many instances. Its recent successes were noteworthy. It was yet, however, in its infancy, and doubtless was capable of still more development. Might we not soon expect to see the *fœtus in utero*? No one doorway could open to the royal road to success in the practice of surgery. The skillful and intelligent application of prompt relief, added to a careful diagnosis, would give us the most wonderful and satisfactory results. What each one found to do, let him do it with his might.

**Appendicitis; to Operate or not to Operate.**—Dr. JAMES H. DUNN, of Minneapolis, said that if we could but foretell which of our cases were going to be fatal, we could much more easily and satisfactorily decide this question. The percentage of fatality was yet too high. But must we cease operating because of such a fact? In a certain number of cases recovery would occur without surgical interference. Indeed there was so large a number of such cases that he believed we very often, in our enthusiasm, operated when it would have been much better to leave them alone, so far as the knife was concerned.

Dr. J. B. MURPHY, of Chicago, said that the surgeon was brought face to face with a condition which had a recognized mortality of about from five to eight per cent. He thought such a percentage was too high. We first had to contend with the presence or absence of



suppuration. In four hundred and fifty cases, he did not think there had been an entire absence of pus in a single instance. He was satisfied that there were some patients who could be cured by medicine, but, he asked, could they be distinguished? Medical treatment gave a mortality of ten per cent., and if the knife gave three per cent., then we must operate to save the seven per cent. He thought that every patient could not be operated upon, but the conditions would show whether or not an operation was advisable.

**The Clinical Significance of the Child's Fontanelle.**—Dr. ISAAC A. AET, of Chicago, said that in health the fontanelle did not sink below or rise above its bony frame. It had both respiratory and pulsatory movements. With increased intracranial pressure the normal bruit might quite disappear. Early ossification interfered with brain development and produced brachycephalism. In rachitis the involution of the fontanelle was delayed. Marked bulging was caused by the collection of fluid within. Abnormal retraction of the fontanelle always indicated a condition of inanition. It might be temporary; if it was chronic it was a serious condition. A deeply sunken fontanelle was always a danger signal. Involution occurred normally at from fifteen to eighteen months. Protuberance and tension indicated meningitis.

**The Operative Treatment of Pterygium.**—This<sup>a</sup> was the title of a paper read by Dr. EDUARD BOECKMANN, of St. Paul, in which the author discussed the history of the operations for the cure of pterygium, and pointed out the objections as well as the advantages of those most frequently used. He suggested an operation which was a combination of some others referred to. A crescentic piece was cut from the pterygium, about five lines from its head. This part was curetted thoroughly down to the sclerotic. The head of the pterygium was dissected off. At the convexity of the piece cut out a stitch was inserted and the opposing edges were drawn together. This left the curetted portion to granulate and form a cicatrix. The author thought that the results of this method were superior to those of any other in his experience.

**Subconjunctival Injection in the Treatment of Certain Diseases of the Eye.**—Dr. WILLIAM H. WILDER, of Chicago, said this method consisted in the injection, beneath the conjunctiva, of minute quantities of bichloride of mercury or cyanide of mercury in solution. The operation was not especially painful unless there was inflammation. It had been advocated for many other conditions and diseases. Its exact limitations and indications were not yet positively decided upon. It had been impossible to get the same good results from the salt injections that could be obtained from the mercury. We had in this new treatment a powerful adjunct to the old and tried methods in some diseases of the eye. It was not to be employed to the exclusion of all others. It was not a panacea, but in cases in which mercurial treatment was indicated it was an excellent method.

Dr. BUCKNER, of Cincinnati, said he could not see the special advantage in injecting the solution of mercury under the conjunctiva over the old method of administering it hypodermically or through the mouth. The value of mercury in many cases of irido-chorioiditis could not be overestimated.

Dr. BOECKMANN stated that he had used these injections since he first began to practise medicine, but at this time he was unable to say just how much good they

really did. He carefully injected these solutions whenever he found an ulceration of the cornea. In some cases the method acted beautifully, in others it was a failure.

**Rupture of the Chorioid Coat.**—Dr. JAMES H. BUCKNER, of Cincinnati, said that the length of time which elapsed between the date of the accident and impairment of vision was no criterion by which to judge of the amount of damage done to the chorioid. The rarity of rupture of the chorioid was due to the elasticity of the coats, together with the soft and elastic cushion of fat upon which the eyeball was supported.

**Ether and Chloroform; their Comparative Merits as Agents for the Production of General Anæsthesia.**—Dr. W. S. CALDWELL, of Freeport, Illinois, gave an extended résumé of the statistics of death from chloroform and ether, and stated his preference for chloroform and the reasons therefor.

**The Use of Oxygen in Chloroform Narcosis.**—Dr. C. B. PARKER, of Cleveland, in a paper on this subject, said that the administration of the vital principle, oxygen, with chloroform would seem to be proper on theoretical grounds. On uniting the two there was no chemical union formed between them. It was a mechanical mixture such as we had in the air. The oxygen must be perfectly pure. That usually supplied in tanks was not pure. It must be properly made. The cylinder must be exhausted of all air before it was filled.

The time required to anesthetize was slightly longer than with chloroform, but the advantages far outweighed this minor inconvenience. Of the dangers attendant upon it he was not prepared to speak, as he did not consider that an experience of a hundred and eighteen cases guaranteed any statement relative to that point. There was total absence of vomiting, as well as absence of the extreme pallor and weakened heart-beats, with shallow respiration. The duration of the shock from anæsthesia with this agent was very much shorter. The patient always recovered promptly without any delirium.

**Syphilis as an Ætiological Factor in the Production of Tabes Dorsalis.**—This was the title of a paper by Dr. C. TRAVIS DRENNEN, of Hot Springs, Arkansas.

**Diseases of the Nose and Throat in Children.**—Dr. W. F. BARCLAY, of Pittsburgh, dwelt particularly on the possible results of acute and chronic purulent and mucopurulent rhinitis in children. He not only pointed out the necessity of more attention by the family physician, but demonstrated as well that almost all, if not all, the pathological conditions in the nose which occurred in later life had their origin in this condition in childhood.

Children should be taught to breathe through the nose rather than the mouth. Parents should be taught that surgery could relieve, very easily, those who were unable to breathe through the nose.

Dr. LOVE called attention to the necessity of watching over the child from earliest infancy and of teaching it to care for its nose. Many infectious diseases no doubt had their port of entry through this organ.

Dr. LOEB indorsed the author's views and emphasized the fact that too often indeed the children were blamed for having noses that "ran," through which they did not breathe when they could not possibly avoid it.

Dr. COULTER said that the author's idea of the etiology of deflected septum was one which he had advocated some years ago before the Illinois State Medical Society. He was convinced that there must be some other causes of a deflected septum than the bumps that babies re-

ceived. In stenosis of any degree there was created within the cavity a more or less complete vacuum with each inspiration. Thus the atmospheric pressure was to that degree increased and was a constant force of no inconsiderable gravity.

**A Surgical Melange.**—This was the title of a paper by Dr. J. MERRILL RICKETTS, of Cincinnati, in which he related the following cases: *Ligation of the Brachial Artery.*—Secondary hemorrhage had occurred six days after an accident. Five days later another severe hemorrhage had occurred. The middle brachial artery had been ligated at that time. Six days later a third hemorrhage had occurred. Erysipelas had followed and recovery had been uninterrupted. The superior profunda and its branches had been the source of the hemorrhage after the ligation of the brachial. The ligatures should have been applied above the superior profunda.

*Gunshot Wound Dividing the Facial Artery.*—Roller compresses had been sufficient to control the hemorrhage. Multiple abscesses had appeared on the cheek subsequently, one of which had left a salivary fistula. This fistula had been finally closed by the introduction of a silver wire.

*Talipes Equino-Varus with External Deformity.*—Phelps's operation had been done a year previously, with but slight improvement. The astragalus had been removed five weeks later through the dorsum of the foot. Division of the tendo Achilles had not been necessary.

*Hypertrophied Prostate.*—On the twenty-fifth day of a severe attack, double orchidectomy had been done under cocaine anesthesia. Dr. Ricketts had found that cocaine would answer every purpose in these cases. This was the third case in which the same operation had been done, and all had been successful.

*Sarcoma of the Sacrum.*—There had been present a syphilitic diathesis. The growth had been previously diagnosed as a fatty tumor. Complete removal had been followed by a prompt recovery, leaving a fistula from the rectum into the cavity. This had been successfully closed by a later operation.

Papers were also read by Dr. FENTON B. TURCK, of Chicago, A Further Report on the Treatment of Five Hundred Cases of Gastritis; Dr. CASEY A. WOOD, of Chicago, on Some Rare Forms of Keratitis; Dr. A. E. STEARNE, of Indianapolis, on The Significance and Occurrence of Capillary Pulsation in Nervous Diseases; and Dr. G. I. CULLEN, of Cincinnati, on The Newer Remedies in Otology and their Results.

## Book Notices.

1 *Practical Treatise on Materia Medica and Therapeutics.* By ROBERTS BARTHOLOW, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Ninth Edition, revised and enlarged. New York: D. Appleton and Company, 1896. Pp. xx-866.

This edition of Professor Bartholow's well-known work is larger by forty-five pages than its immediate predecessor, and a great portion of the additional matter is devoted to new drugs, chiefly the synthetical

chemical products, most of which are proprietary. In the preface Dr. Bartholow says with regard to these drugs: "When by the substitution process a remedy is evolved that seems likely to possess certain powers, it is placed in the hands of some friendly investigator to study its physiological actions, and it is then duly exploited by the manufacturer. It is undeniable that many important contributions have been thus made to practical medicine; but it is equally true that many have not sustained the pretensions of their promoters, and have either failed entirely of recognition or have only in part justified the extravagant claims made for them. The whole subject is yet hardly in a state to select out of the mass those that time and further clinical experience must justify." It seems to us that this expresses the feeling that any unprejudiced reader of current medical literature must entertain.

The work maintains its excellent character, and its continued popularity is well deserved.

4 *Vest-Pocket Medical Dictionary.* Embracing those Terms and Abbreviations which are commonly found in the Medical Literature of the Day, but Excluding the Names of Drugs and of Many Special Anatomical Terms. By ALBERT H. BUCK, M.D., New York city. New York: William Wood and Company, 1896. Pp. vi-529.

QUITE an extensive vocabulary has been got into this diminutive book, which may indeed be carried in the waistcoat pocket. Dr. Buck's definitions are, as a rule, very satisfactory, and we have noticed but very few errors of any kind. It is to be presumed that it is only by a proofreader's oversight that the expression "names of drugs and of [sic] many special anatomical terms" appears on the title-page.

## BOOKS, ETC., RECEIVED.

*Medical Jurisprudence, Forensic Medicine, and Toxicology.* By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., and Tracy C. Becker, A.B., LL.B., Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. Volume Four. New York: William Wood & Company, 1896. Pp. 5 to 892.

*Preventive Medicine.* A Brochure for the Laity. Being a Practical Treatise on the Theory and the Technique of the Prevention of Disease. By Dr. Clarence Rutherford Hendrickson, County Physician of Canadian County, Oklahoma. Wichita, Kansas: Press of the Wichita Eagle, 1896. Pp. 9 to 75.

*Nouveaux éléments d'ophtalmologie.* Par H. Truc, Professeur de Clinique ophtalmologique à la Faculté de Montpellier, et E. Valude, Médecin de la Clinique ophtalmologique nationale des Quinze-Vingts. Tome Second. Avec 108 figures. Paris: A. Maloine, 1896. Pp. 713.

*Biblioteca Botanico-Mexicana. Catalogo bibliografico, biografico y critico de autores y escritos referentes a vegetales de Mexico y sus aplicaciones, desde la conquista hasta el presente. Suplemento a la Materia Medica Mexicana publicada por el Instituto Médico Nacional. Escrito por el Dr. Nicolas Leon, Fundador y ex-Director del Museo Michoacano, etc. Mexico: Oficial Tip. de la Secretaria de Fomento, 1896. Pp. 3 to 372.*

Report of the Commissioner of Health of Mil-

waukee, for the Years 1894 and 1895, together with the Report of the Board of Trustees of the Emergency Hospital. April, 1896.

Transactions of the South Carolina Medical Association. Forty-sixth Annual Meeting, April 22 and 23, 1896.

Transactions of the Seventh Annual Meeting of the Medical Society of the State of Washington, May 19 and 20, 1896.

Trichomonas Vaginalis. By N. S. Davis, M. D., Chicago. [Reprinted from the *Chicago Medical Record*.]

The Diagnosis of Tuberculosis from the Morphology of the Blood. An Original Research, with a Report of Cases. By A. M. Holmes, M. D., of Denver. [Reprinted from the *Medical Record*.]

The State of the Gastric Mucosa in Secretory Disorders of the Stomach. By Max Einhorn, M. D. [Reprinted from the *Medical Record*.]

The Fate of Micro-organisms in Inspired Air. By St. Clair Thomson, M. D., London, and R. T. Hewlett, M. D., London. [Reprinted from the *Lancet*.]

Local Hot-air Treatment in Rheumatism and Allied Affections. By W. Knowsley Sibley, M. D., London. [Reprinted from the *Lancet*.]

Sulla sede e sulla natura del morbo di Erb. Dott. Antonio Beorchia-Nigris.

Die Behandlung der Lungentuberkulose mittels Ichthyol. Von Dr. Moritz Cohn, in Hamburg. [Sonderabdruck aus der *Deutschen medicinischen Wochenschrift*.]

Ueber die beim Scheintod Neugeborener vorliegenden Indikationen. Von B. S. Schultze, in Jena. [Sonderabdruck aus dem *Centralblatt für Gynäkologie*.]

Die Hygiene in den Barbierstuben. Von Dr. Heinrich Berger, Hannover. Basel und Leipzig: Carl Talmann, 1896. Pp. 7 to 32.

A System of Gynæcology. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc., and W. S. Playfair, M. D., LL. D., F. R. C. P., Professor of Obstetric Medicine in King's College, etc. New York and London: The Macmillan Company, 1896. Pp. xviii-973. [Price, \$6.]

Manual of Diseases of the Ear, including those of the Nose and Throat in Relation to the Ear. For the Use of Students and Practitioners of Medicine. By Thomas Barr, M. D., Lecturer on Diseases of the Ear, Glasgow University, etc. Second Edition, entirely revised and extensively rewritten. With Two Hundred and Twenty-nine Illustrations. New York: The Macmillan Company, 1896. Pp. xxiii-415. [Price, \$3.50.]

Anatomical Atlas of Obstetrical Diagnosis and Treatment. By Oscar Schaeffer, M. D. With One Hundred and Forty-five Illustrations. New York: William Wood and Company, 1896. Pp. xvi-234.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections, in Photo-lithochromes from Models in the Museum of the Saint-Louis Hospital, Paris. With Explanatory Woodcuts and Text by Ernest Besnier, Physician to the Saint-Louis Hospital, etc.; Tenneson, Physician to the Saint-Louis Hospital; Hallopeau, Member of the Academy of Medicine, etc.; and Du Castel, Physician to the Saint-Louis Hospital. With the Cooperation of Henri Feulard, Curator of the Museum, and Leon Jacquet, Secretary of the Dermatological Society of France. Edited and annotated by J. J. Prin-

gle, M. B., F. R. C. P., Assistant Physician to and Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. London: F. J. Rebman. Philadelphia: W. B. Saunders, 1896. Part V. Pp. 113 to 137. [Price, \$3 each part.]

Essentials of Physical Diagnosis of the Thorax. By Arthur M. Corwin, A. M., M. D., Demonstrator of Physical Diagnosis in Rush Medical College, etc. Second Edition, revised and enlarged. Philadelphia: W. B. Saunders, 1896. Pp. 17 to 199. [Price, \$1.25.]

Ophthalmic Operations as Practised on Animals' Eyes. By Clarence A. Veasey, A. M., M. D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic, etc. With Fifty-six Illustrations. Philadelphia: The Edwards & Docker Company, 1896. Pp. viii-9 to 99.

Sojourn among the Oculists of Europe. By Flavel B. Tiffany. Kansas City, Missouri: Hudson-Kimberly Publishing Company, 1896. Pp. 5 to 125.

Over the Hookah. The Tales of a Talkative Doctor. By G. Frank Lydston, M. D., Professor of Criminal Anthropology in the Kent College of Law, etc. Illustrated from the Author's Designs by Mr. C. Everett Johnson. Chicago: Fred. Klein Company, 1896. Pp. xix-25 to 618.

The Philosophy of Sex. By H. Edwin Lewis. Burlington, Vermont: The Vermont Medical Publishing Company, 1896. Pp. 7 to 51.

The Medical Record Visiting List or Physician's Diary for 1897. New Revised Edition. New York: William Wood & Company, 1896.

The Medical News Visiting List for 1897. Philadelphia: Lea Brothers & Co., 1896.

Die Versorgung von kleineren Städten, Landgemeinden und einzelnen Grundstücken mit gesundem Wasser. Von Dr. F. Kraschutski, Stabsarzt in Danzig. Mit 4 Figuren im Text. Hamburg und Leipzig: Leopold Voss, 1896. Pp. 40.

Transactions of the Texas State Medical Association. Twenty-eighth Annual Session, April 28, 29, 30, and May 1, 1896.

Transactions of the Fifty-first Annual Meeting of the Ohio State Medical Society, May 27, 28, and 29, 1896.

Proceedings of the West London Medico-chirurgical Society. Volume VII. Session of 1894-'95.

## Miscellany.

**The Modern Treatment of Diphtheria in Private Practice.**—In an article on this subject in *Pædiatrics* for October, Dr. W. A. Walker states that the uniform success which he has observed and obtained in his own practice has convinced him that the treatment of diphtheria with antitoxine is a great advance in therapeutics, and it is his impression that those who have condemned this treatment have in most instances observed only hospital patients, or have not persisted in the treatment, or perhaps have not had a fresh and reliable serum, or have not used it early enough. The author states that, from the standpoint of a general practitioner, he fully expects to cure any patient with diphtheria in private practice if he is seen within forty-eight hours after the onset of the disease.



In typical cases, says Dr. Walker, the physician finds the following conditions: General depression, the face pale, the pulse accelerated, and the temperature about 101° F. An inspection of the throat reveals general diffuse redness, with the characteristic deposit on one or both tonsils. This peculiar deposit once seen is not readily forgotten. The high fever, flushed face, and rapid pulse usually seen in pseudo-membranous amygdalitis are absent; the margin of the inflammatory process is usually sharply defined in diphtheria and not in amygdalitis. In follicular amygdalitis the leading symptoms are intense congestion of the tonsils, with small discrete white patches, and the pulse and temperature high.

If, however, the symptoms are not well defined and the diagnosis can not be clearly made, the patient should be given the benefit of the doubt and a dose of anti-diphtheritic serum administered at once. Then a culture should be made to verify the diagnosis. If the author believes the case to be one of diphtheria, or has a reasonable doubt as to the diagnosis, he uses the antitoxine while waiting for the report from the bacteriologist. If the case turns out to be one of amygdalitis, no harm has been done, he says, as he considers a fresh, reliable serum, properly administered, devoid of danger.

In a case where the diagnosis of diphtheria is clear, he gives as quickly as possible either 1,000 or 1,500 units of the serum. The attendant is instructed to keep the throat clean with a bichloride solution of 1 to 5,000, or a solution of permanganate of potassium may be used, 1 to 4,000, if the attendant is not a trained nurse. With a young child, difficult to manage, it is best to inject the solution into the nostrils; in older children a spray can be used in both the nostrils and throat more advantageously.

At the end of twenty-four hours the membrane should begin to shrivel and curl up at the edges. In any event, however, he administers a second injection at this stage of the disease, and in a majority of instances this is sufficient. He advises very strongly that the second injection should be given in all cases where the diagnosis of diphtheria is clear. He does not expect a cure from one injection, and rarely omits the second. If the symptoms do not indicate the beginning of convalescence at the end of forty-eight hours, he gives a third injection. In fact, he says, he would use a fourth injection if it seemed advisable at the end of another twenty-four hours, but he thinks this will rarely be found necessary.

He states that he has not used antistreptococcic serum, but he is convinced that in cases in which the treatment has been delayed, or in cases showing the streptococcic infection, proved by bacteriological investigation or by the peculiar red zone of inflammation which begins to spread from the margin of the diphtheritic process, the antistreptococcic serum should be used promptly. Not only this ought to be done, but in cases of severe acute disease in the throat, which present all the symptoms of diphtheria, but where the bacteriological report does not confirm the diagnosis, the antistreptococcic serum should be resorted to. In fact, if he should have a case of diphtheria in which the membrane did not begin to peel up by the end of the twenty-four hours following, say, the second injection of antitoxine, he adds, he would use the antistreptococcic serum.

Dr. Walker insists upon the importance of a fresh,

reliable, highly concentrated serum, and states that he has full confidence in the American products and does not use imported serums. He has used several serums, but has been best satisfied with the effects of that sent out from the biological department of Parke, Davis, & Co., and heartily approves of the way in which this firm now puts up the serum in bulbs instead of in bottles. It not only is highly concentrated, but, being hermetically sealed, should keep indefinitely. It is put up in bulbs of so many units, 250, 500, 1,000, and 1,500, and, each bulb containing a dose, there is no temptation to use a serum that has been exposed to the atmosphere.

Dr. Walker gives a detailed tabular report of the last seven cases which he treated in private practice. Bacteriological cultures were made in five. From two to three doses of antitoxine were given on the first, second, and third days after the first appearance of the disease. Intubation was practised in two cases. Recovery occurred in all the cases.

As to the medicinal treatment, he continues, he does not give any drug with the idea of influencing the course of the disease. He treats the conditions as they arise symptomatically. If he has evidence of the absorption of poisonous secretions, and there is a coated tongue, he gives calomel tablet triturates, a quarter of a grain every hour, until the bowels move freely. Alcohol is rarely needed in cases in which the serum treatment is employed, especially if it is used early enough, whereas under the old treatment, when we were so apt to find profound toxic symptoms, alcohol was often needed. Dr. Walker states that he prefers fluid nourishment, principally milk, during the course of the disease.

**Sparteine Sulphate in Surgical Anæsthesia.**—In the *Therapeutic Gazette* for November Dr. Gilbert G. Cottam states that he has employed sparteine sulphate in a number of surgical cases with very positive results, the beneficial effect of the drug being clearly shown in nearly every instance.

The effect of sparteine on the heart was first noticed by Laborde, whose observations were subsequently confirmed by Griffe, Garaud, and Masius. Germain Sée first drew attention to its great value in cardiac affections; and finally, in America by Cheves Bevil, in France by P. Langlois and Maurange, the remarkable properties of the sulphate as a cardiac stimulant in chloroform narcosis were observed and described.

Bevil (*Therapeutic Gazette*, vol. xix, p. 71) uses it in doses of a fifth of a grain by the mouth, given thirty minutes before the chloroform is administered. He describes two cases in which the patients did well throughout prolonged anaesthesia.

Langlois and Maurange (*Semaine médicale*, August, 1894) give from 0.5 to 0.6 of a grain of sparteine sulphate and three twentieths of morphine hypodermically, fifteen minutes before the commencement of anaesthesia. They have done this a hundred and twenty times on the human subject. In many of these cases the patients suffered from heart disease or had to undergo prolonged operations, such as laparotomy, ketotomy, and reduction of dislocations. In all of them the heart-beats continued full and perfectly regular.

The author's mode of procedure is to inject hypodermically a tenth of a grain of sparteine sulphate ten minutes before the anaesthesia is begun. Then, if the operation is protracted, a fifteenth of a grain is injected during its progress. These doses have been found ample

to secure the desired effect, although they are much smaller than is generally considered necessary.

Dr. Cottam gives an account of seven cases to illustrate the points enumerated. Sparteine sulphate was used in every instance in the manner just described, and the patients themselves, from various causes, were such as would be peculiarly susceptible to the depressing influence of chloroform, and hence admirably adapted to demonstrate the properties of sparteine.

A study of these cases and many others of a minor nature, he says, has caused him to form these conclusions:

1. That in sparteine sulphate, administered hypodermically before the beginning of anæsthesia, in the dose of a tenth of a grain, repeated according to the nature of the operation and the condition of the patient, we have a safe, efficient, and prompt heart stimulant in chloroform narcosis.

2. That it is not necessary either to combine it with morphine or to use it in larger doses than those specified.

3. That, other things being equal, there is less shock and there is prompter reaction with its use.

**Strontium Lactate in Bright's Disease.**—According to the *British Medical Journal* for November 7th, Brouowski (*Wiener medicinische Presse*, September 13, 1896) gives a preliminary account of the results of his clinical and experimental investigations into the action of strontium lactate upon the kidneys. His first experiments were upon rabbits, and consisted in the daily subcutaneous injection of a quantity equal to double the dose in proportion to the body weight. After a month one rabbit had gained seven ounces in weight, and the second ten ounces, while the third had not altered. They were perfectly well in every way, and after they had been killed the internal organs were found to be normal. The drug was then tried in ten cases of kidney disease, three of which were acute parenchymatous nephritis, six mixed nephritis, and one interstitial nephritis. Six doses of fifteen grains were given daily, and well borne. In all cases the volume of the urine increased, and its specific gravity fell. This effect began on the second or third day, and was most marked on the sixth or seventh, and persisted two or three days after the drug had been discontinued. The action was most marked in acute cases, and was much slighter in the chronic forms; the albumin diminished *pari passu* with the increase in the urine. In acute cases it disappeared entirely, but in chronic no diminution was observed. The ethereal sulphates in the urine, by which the amount of intestinal putrefaction may be estimated, were unaffected, and there was no constant change in the pulse or blood pressure. The antiseptic properties of lactate of strontium were tested upon a patient with an intestinal fistula in the cæcal region, and found to be extremely slight. A further series of experiments was made upon dogs, solutions of the drug of various strengths being injected intravenously. The blood pressure was at first unaltered, but fell rapidly when the dose was increased; the rapidity of the pulse and respiration was increased; and the volume of urine was doubled or tripled. With enormous doses the volume again diminished and the urine was found to contain red and white corpuscles. In this case there were seen post mortem (the animal having been killed by bleeding) hyperæmia of the kidneys and hæmorrhages into their capsule and parenchyma. The author concludes that stron-

tium lactate is a pure diuretic, and is more valuable than any other remedy in the treatment of acute inflammatory conditions of the kidney.

**A Peculiar Eruption from Contact with Arterial Blood.**—In the November number of the *British Journal of Dermatology* Mr. Marmaduke Sheild states that he has noticed a peculiar skin manifestation which appears in consequence of arterial blood forcibly spurring and drying upon an exposed surface. He has principally observed it, he says, upon the backs of his own forearms and upon his forehead after operations attended with hæmorrhage, in which the skin is spattered or speckled with arterial blood. On his washing away the little crusts of dried blood, a faint pink erythematous spot appears in the site of each; this darkens to a faint red, lasts about half an hour, and finally slowly disappears. The rash is not attended by itching, burning, or inconvenience. He has observed it so frequently in his own person that there can be no doubt of its occurrence. He has also seen it upon the forearms of his assistants, though not so vividly marked as upon his own. He has twice noted it upon the exposed skin round the breast in cases of removal of that organ. He states that it certainly is not constant, and this makes him believe that the cause is to be found in some peculiar condition of the blood. On one occasion it was remarkably vivid upon the back of his forearm after washing away the arterial speckling contracted in the excision of a tuberculous knee. He has often shown it to the house surgeons, who are familiar with its appearance on his own arms. The author says he is quite unable to explain its occurrence, and thinks an unusual phenomenon of this kind is worthy of the attention and investigation of others. He has no doubt it will be commonly found, and he proposes for the time to apply to it the appellation of "blood erythema."

**Tuberculosis of the Tonsils in the Vegetative Form.**—In the *Revue hebdomadaire de laryngologie, d'otologie et de rhinologie* for November 7th M. Mouret remarks that since Dieulafoy maintained that he had demonstrated primary tuberculosis of the tonsils by inoculating guinea-pigs with fragments of these organs, and since Lermoyez had demonstrated histologically that adenoid vegetations of the pharyngeal tonsils were sometimes tuberculous, the question of tuberculosis of the tonsils has become a subject of interest to physicians in general and laryngologists in particular. Having had occasion himself to remove some adenoid vegetations from the palatine tonsils of a young man, M. Mouret thought it would be of interest to record the case, of which he gives a detailed account. These vegetations were subjected to an examination; they were fixed in Roule's liquid and inclosed in paraffin, and the sections were colored according to Ziehl's method. The histological examination showed that the vegetations were filled with giant cells and presented a very large number of Koch's bacilli. An attempt was made, says the author, to photograph the bacilli, but the results obtained were not distinct enough, and a drawing was made which represents an enormous giant cell with its jagged periphery and the numerous peripheral shells which characterized it; all around this cell there was a thick band of leucocytes; in its interior two bacilli were found, which, in the colored preparations made by Ziehl's method, became of a red color from the fuchsine, which fixed them more strongly than the other elements of the preparations. The bacilli were



also seen in the neighboring tissues, which showed symptoms of necrosis.

M. Mouret thinks that the histological examination fully demonstrated the tuberculous nature of these vegetations, and he calls attention to this vegetative and non-ulcerative form of tuberculosis of the tonsils.

Concerning the question of primary or secondary tuberculosis in this case, M. Mouret states that at the time he saw the patient there was nothing to cause him to suppose that there was primary tuberculosis. The condition of the larynx led him to think, on the contrary, that it must have been secondary, as is more often the case. But, he says, granting the advanced tuberculous condition of these vegetations, it may also be questioned whether this vegetative tuberculosis was not primary. At all events, it may be admitted *a priori* that this may be the case more frequently than we are aware of, and that the tonsils may be tuberculous before any other organs are attacked by Koch's bacilli. Since Lermoyez has shown that adenoid vegetations of the pharyngeal tonsils may be tuberculous without manifestations of tuberculosis elsewhere, it is rational enough to admit that this may be the case in the palatine tonsils. However, continues M. Mouret, if tuberculosis of the palatine tonsils is admitted at the present time, the demonstration of primary tuberculosis of these organs has not yet been sufficiently established; this is owing, no doubt, he says, to the fact that histological examinations of the parts removed are not made often enough. Such an examination only can reveal whether a vegetation of the tonsils, or an hypertrophied tonsil in a mass, in a child or an adult who has no tuberculous manifestation elsewhere, is of a bacillary nature. It is not sufficient to inoculate fragments of a diseased tonsil under the skin or in the peritoneum of a guinea-pig in order to establish, if the animal becomes tuberculous, that this tonsil was tuberculous. So many microbes constantly inhabit the buccal cavity that Koch's bacilli may certainly be found lodged in the tonsillar crypts.

In this case, says M. Mouret, their presence in the lower part of the crypts and outside of the tonsillar tissue may suffice to produce tuberculosis in the inoculated animal. Only a histological examination can indicate clearly the tuberculous condition of the tonsil.

**The New York Civil Service Commission** will hold the following examinations at its office, in the New Criminal Court Building, at 10 A. M. on the dates named. Citizens of the United States who are residents of the State of New York and hold the degree of M. D. are eligible for these examinations. Applications may be obtained from S. William Briscoe, secretary, New Criminal Court Building, New York city.

**December 3d.**—Medical chief of staff, Department of Public Charities. Candidates must hold the degree of M. D. and have experience in hospital organization and management. Salary, \$3,000 per annum.

**December 15th.**—House physician, Bellevue Hospital, Department of Public Charities. Candidates must hold the degree of M. D. They will be examined on nervous and mental diseases. Salary, \$1,200 per annum.

**The New York Academy of Medicine.**—At the last meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 25th inst., the following cases were presented: Laryngeal Stenosis, by Dr. J. W. Gleitsmann; A Tooth-plate from the Larynx, by Dr.

J. E. H. Nichols; Epilepsy cured by Nasal Operation, by Dr. T. P. Berens; and Frontal Sinus Disease; Operation and Cure, by Dr. T. J. Harris. New instruments and apparatus were exhibited.

**Sodium Nitrite in the Treatment of Syphilis.**—In the *Indépendance médicale* for November 4th there is an abstract of an article from the *Giornale italiano delle malattie veneree e della pelle*, in which the author, Dr. Florio Sprecher, states that M. Pétroué has recently tried sodium nitrite in the treatment of rabies and syphilis. The results were successful in the latter disease only, and the author, encouraged by this example, experimented with this new method. He used very pure sodium nitrite in solutions of from four to eight, twelve to sixteen, and twenty to twenty-five per cent. The injections were made daily, either into the subcutaneous tissue or deep into the muscles. During the first days only a few centigrammes were injected, but afterward the doses were progressively increased; the daily quantity never exceeded eight grains, and the treatment was never prolonged over thirty days. The injections never caused abscesses or left indurations.

The author states that among twelve women treated by him, two showed such an intolerance of the sodium nitrite that the treatment had to be given up. With regard to the others, the author is obliged to admit that the results obtained were entirely contrary to those published by M. Pétroué. There was no amelioration of the general condition and there was no increase in weight; the anæmia remained the same in five patients and was aggravated in the rest. The initial syphiloma and the lymphatic glands were not at all modified under the influence of this remedy, but the so-called rheumatoid and osteocopic pains, as well as the neuralgia from which the patients suffered were attenuated under the influence of sodium nitrite. On the other hand, in two men the osteocopic pains did not appear, except during the treatment. The cutaneous syphilides were aggravated, and those of the mucous membranes were not modified. Regarding the two cases in which this treatment was not tolerated, cyanosis, nausea, and vomiting were observed in one, and cyanosis and violent pain in the other. The author concludes that this remedy is not efficacious and, furthermore, that it presents the dangers of poisoning.

**Tattooing Effaced by Electrolysis.**—At a recent meeting of the Berlin Society of Dermatology, a report of which is published in the *Annales de dermatologie et de syphiligraphie* for October, Dr. Heller presented a patient in whom he had effaced the marks of tattooing on the hand with electrolysis. He had employed a current of three milliamperes, and the result was good. He had been obliged to proceed with a certain amount of caution in order to avoid exposing the entire region to electrolysis; but without local necrosis a cure was not possible. At all events, under these circumstances, Dr. Heller found it necessary to make from fourteen to twenty applications.

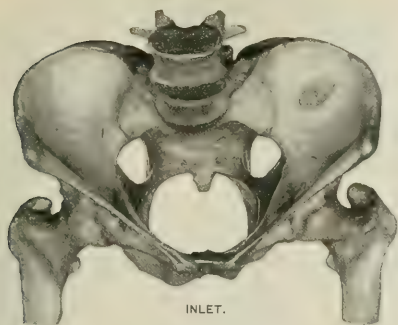
Recently, he said, good results had been obtained by washing the tattooed parts with a solution of tannic acid; needles were then plunged into the affected region, which was finally touched with silver nitrate so as to cause the formation of silver tannate *in situ*. Giovanni, in his microscopical examinations, found large vacuoles which were formed by electrolysis in consequence of destruction of the adipose layer. Dr. Heller thought that these cavities disappeared again very rapidly.



The following twenty-four groups of illustrations are from photographs of copper-plated plaster models.

## GROUP I.—NORMAL PELVIS. MALE TYPE.

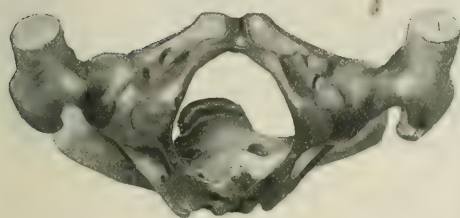
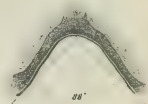
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INLET.



LUMBO-SACRO-COCYGEAL CURVE.—INCLINATION AND SHAPE OF SYMPHYSIS.—PUBIC ARCH AND ANGLE.

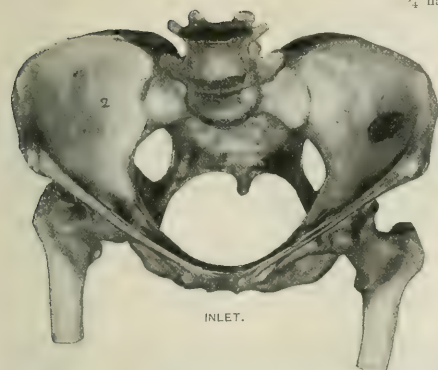


OUTLET.

MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	24	61	TRANSVERSE OF INLET,	5	12½
TROCHANTERS,	12½	32	RIGHT OBLIQUE INLET,	4½	12
Spines,	9½	25	LEFT OBLIQUE INLET,	4½	12
Crests,	10½	27½	RIGHT PELVIC WALL,	4½	11
External Conjugate,	6½	16	HEIGHT LEFT PELVIC WALL,	4½	11
RIGHT EXTERNAL OBLIQUE,	8½	21	HEIGHT POSTERIOR PELVIC WALL,	4½	10½
LEFT EXTERNAL OBLIQUE,	8½	21	LENGTH SACRO-COCYGEAL CURVE,	5½	13½
Height of Symphysis,	1½	5	TRANSVERSE OUTLET,	3½	9
DIAGONAL CONJUGATE,	4½	12	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	3½	8½
ANATOMICAL CONJUGATE,	3½	10	ANTERO-POSTERIOR OUTLET (SACRAL),	4½	11
Obstetric Conjugate,	3½	9	CURVE OF SACRUM,	MODERATE	
			PUBIC ANGLE	88°	

## GROUP II.—NORMAL PELVIS. FEMALE TYPE.

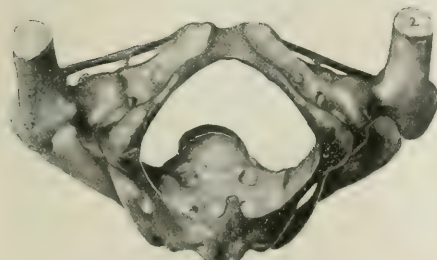
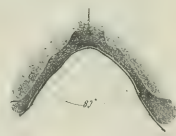
( $\frac{1}{4}$  natural size.)



INLET.



LUMBO-SACRO-COCYGEAL CURVE.—INCLINATION AND SHAPE OF SYMPHYSIS.—PUBIC ARCH AND ANGLE.

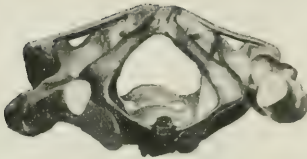
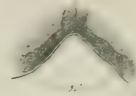
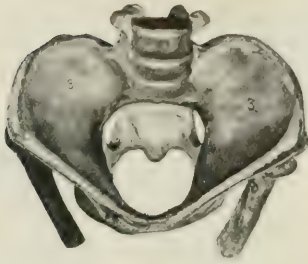


OUTLET.

MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	23½	59	TRANSVERSE OF INLET,	5	12½
TROCHANTERS,	11½	29	RIGHT OBLIQUE INLET,	5	12½
Spines,	9½	25	LEFT OBLIQUE INLET,	5	12½
Crests,	11	28	RIGHT PELVIC WALL,	4½	11
External Conjugate,	7	18	HEIGHT LEFT PELVIC WALL,	4½	11
RIGHT EXTERNAL OBLIQUE,	8½	21	HEIGHT POSTERIOR PELVIC WALL,	4½	11½
LEFT EXTERNAL OBLIQUE,	8½	21	LENGTH SACRO-COCYGEAL CURVE,	5	12½
Height of Symphysis,	1½	4½	TRANSVERSE OUTLET,	4	10
DIAGONAL CONJUGATE,	4½	11½	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	3½	9½
ANATOMICAL CONJUGATE,	4	10	ANTERO-POSTERIOR OUTLET (SACRAL),	5	12½
Obstetric Conjugate,	3½	10	CURVE OF SACRUM,	MODERATE	
			PUBIC ANGLE	89°	

GROUP III.—PELVIS DEFORMED BY CONGENITAL DISLOCATION OF BOTH FEMURS.  
CHILD TEN YEARS OLD.

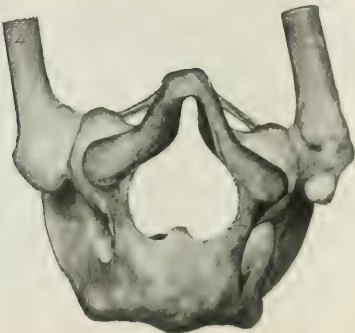
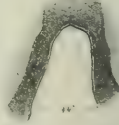
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	16 $\frac{1}{2}$	42	TRANSVERSE OF INLET,	2 $\frac{3}{4}$	7
TROCHANTERS,	8 $\frac{1}{4}$	21	RIGHT OBLIQUE INLET,	3 $\frac{1}{2}$	7 $\frac{1}{2}$
Spines,	6 $\frac{3}{4}$	17	LEFT OBLIQUE INLET,	2 $\frac{3}{4}$	7
Crests,	6 $\frac{3}{4}$	17	HEIGHT RIGHT PELVIC WALL,	3 $\frac{1}{2}$	7 $\frac{1}{2}$
External Conjugate,	4 $\frac{1}{2}$	11 $\frac{1}{2}$	HEIGHT LEFT PELVIC WALL,	2 $\frac{3}{4}$	7
RIGHT EXTERNAL OBLIQUE,	5 $\frac{1}{2}$	14	HEIGHT POSTERIOR PELVIC WALL,	3 $\frac{1}{2}$	8 $\frac{1}{2}$
LEFT EXTERNAL OBLIQUE,	5 $\frac{1}{2}$	13 $\frac{1}{2}$	LENGTH SACRO-COCCYGEAL CURVE,	4	10
Height of Symphysis,	1 $\frac{3}{4}$	3 $\frac{1}{2}$	TRANSVERSE OUTLET,	2 $\frac{3}{4}$	7
DIAGONAL CONJUGATE,	3 $\frac{3}{4}$	9 $\frac{1}{2}$	ANTERO-POSTERIOR OUTLET COCCYGEAL,	2 $\frac{1}{2}$	5 $\frac{1}{2}$
ANATOMICAL CONJUGATE,	3 $\frac{1}{2}$	8	ANTERO-POSTERIOR OUTLET SACRAL,	2 $\frac{3}{4}$	7
Obstetric Conjugate,	3	7 $\frac{1}{2}$	CURVE OF SACRUM,	MODERATE	
3			PUBIC ANGLE,	26°	

GROUP IV.—PELVIS DEFORMED BY EXTREME DEGREE OF OSTEOMALACIA.  
(DUPUYTREN MUSEUM.)

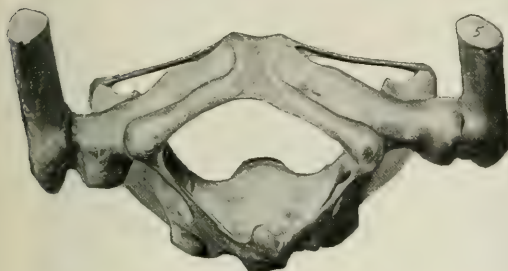
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	24 $\frac{1}{2}$	61 $\frac{1}{2}$	TRANSVERSE OF INLET,	4 $\frac{1}{2}$	11
TROCHANTERS,	9 $\frac{1}{2}$	25	RIGHT OBLIQUE INLET,	4 $\frac{1}{2}$	11
Spines,	7 $\frac{1}{2}$	19	LEFT OBLIQUE INLET,	4 $\frac{1}{2}$	11
Crests,	8 $\frac{1}{2}$	22	HEIGHT RIGHT PELVIC WALL,	4	10
External Conjugate,	8 $\frac{1}{2}$	21	HEIGHT LEFT PELVIC WALL,	4	10
RIGHT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21	HEIGHT POSTERIOR PELVIC WALL,	2 $\frac{3}{4}$	7 $\frac{1}{2}$
LEFT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21	LENGTH SACRO-COCCYGEAL CURVE,	5 $\frac{1}{2}$	13 $\frac{1}{2}$
Height of Symphysis,	2	5	TRANSVERSE OUTLET,	2 $\frac{3}{4}$	7
DIAGONAL CONJUGATE,	5 $\frac{1}{2}$	14	ANTERO-POSTERIOR OUTLET COCCYGEAL,	4	10
ANATOMICAL CONJUGATE,	5	12 $\frac{1}{2}$	ANTERO-POSTERIOR OUTLET SACRAL,	5 $\frac{1}{2}$	13 $\frac{1}{2}$
Obstetric Conjugate,	4 $\frac{1}{2}$	12	CURVE OF SACRUM,	INCREASED	
4			PUBIC ANGLE,	44°	

GROUP V.—PELVIS DEFORMED BY CONGENITAL DISLOCATION OF BOTH FEMURS.

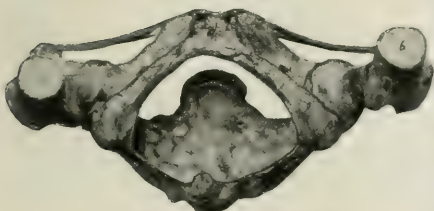
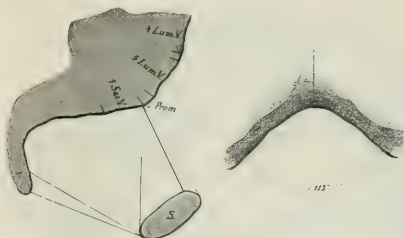
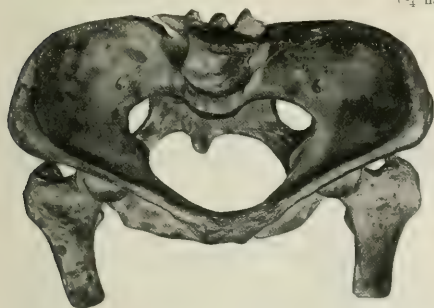
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	24	62	TRANSVERSE OF INLET,	5	14
TROCHANTERS,	15	34	RIGHT OBLIQUE INLET,	5	12
Spines,	10	26	LEFT OBLIQUE INLET,	5	12
Crests,	11	28	HEIGHT RIGHT PELVIC WALL,	4	10
External Conjugate,	7	18	HEIGHT LEFT PELVIC WALL,	4	10
RIGHT EXTERNAL OBLIQUE,	8	20	HEIGHT POSTERIOR PELVIC WALL,	5	12
LEFT EXTERNAL OBLIQUE,	8	20	LENGTH SACRO-COCYGEAL CURVE,	5	13
Height of Symphysis,	2	6	TRANSVERSE OUTLET,	5	13
DIAGONAL CONJUGATE,	5	13	ANTERO-POSTERIOR OUTLET (COCYGEAL),	3	9
ANATOMICAL CONJUGATE,	5	12	ANTERO-POSTERIOR OUTLET (SACRAL),	4	11
Obstetric Conjugate,	4	11	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	115°	

GROUP VI.—RHACHITIC PELVIS WITH ENLARGEMENT OF THE BONES. ADULT EIGHTEEN YEARS OLD. (DUPUYTREN MUSEUM.)

( $\frac{1}{4}$  natural size.)

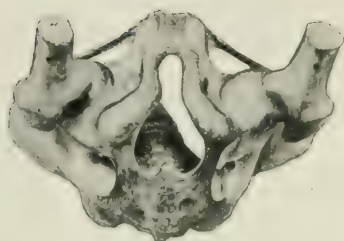
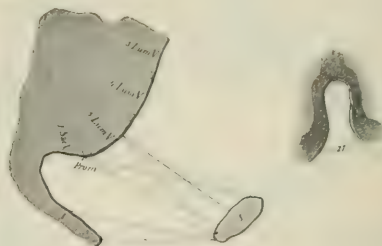


MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE	21	53	TRANSVERSE OF INLET,	4	11
TROCHANTERS,	11	28	RIGHT OBLIQUE INLET,	4	11
Spines,	10	27	LEFT OBLIQUE INLET,	4	11
Crests,	10	26	HEIGHT RIGHT PELVIC WALL,	3	9
External Conjugate,	5	13	HEIGHT LEFT PELVIC WALL,	3	9
RIGHT EXTERNAL OBLIQUE,	8	20	HEIGHT POSTERIOR PELVIC WALL,	3	10
LEFT EXTERNAL OBLIQUE,	7	20	LENGTH SACRO-COCYGEAL CURVE	5	12
Height of Symphysis,	1	4	TRANSVERSE OUTLET,	4	10
DIAGONAL CONJUGATE,	3	9	ANTERO-POSTERIOR OUTLET (COCYGEAL),	3	8
ANATOMICAL CONJUGATE,	3	7	ANTERO-POSTERIOR OUTLET (SACRAL),	4	10
Obstetric Conjugate,	2	6	CURVE OF SACRUM,	INCREASED	
			PUBIC ANGLE	113°	



GROUP VII.—RHACHITIC PELVIS WITH SLIGHT CONTRACTION OF THE PELVIC INLET AND MARKED CONTRACTION OF OUTLET. LATERAL DEVIATION OF THE PROMONTORY TO THE LEFT. ADULT. (DUPUYTREN MUSEUM.)

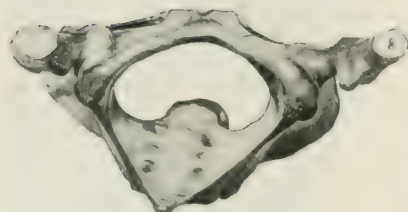
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE.	21	53 1/2	TRANSVERSE OF INLET.	4	10
TROCHANTERS.	8 1/2	22	RIGHT OBLIQUE INLET	4	10
Spines.	8	20 1/4	LEFT OBLIQUE INLET	4	10
Crests.	9	23	HEIGHT RIGHT PELVIC WALL	5 1/2	9
External Conjugate.	7	18	HEIGHT LEFT PELVIC WALL	5 1/2	9
RIGHT EXTERNAL OBLIQUE.	7 1/2	19	HEIGHT POSTERIOR PELVIC WALL	2 3/4	6
LEFT EXTERNAL OBLIQUE	7	18	LENGTH SACRO-COCYGEAL CURVE	4 1/2	11
Height of Symphysis.	1 1/2	4	TRANSVERSE OUTLET	2 1/2	6 1/2
DIAGONAL CONJUGATE	4 1/2	10 1/2	ANTERO-POSTERIOR OUTLET COCCYGEAL	5	7 1/2
ANATOMICAL CONJUGATE	4 1/2	12	ANTERO-POSTERIOR OUTLET SACRAL	4	10
Obstetric Conjugate.	4	10	CURVE OF SACRUM	INCREASED	
7			PUBIC ANGLE	27°	

GROUP VIII.—DEFORMED PELVIS WITH CONTRACTION OF THE PELVIC INLET AND WIDENING OF THE PELVIC OUTLET. ADULT. FALSE PROMONTORY. (DUPUYTREN MUSEUM.)

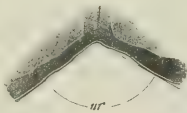
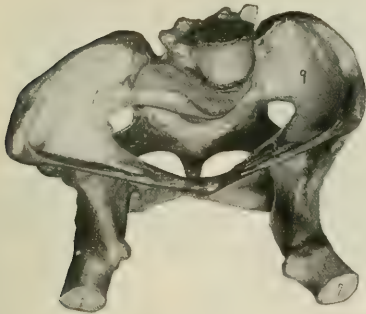
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE.	21	53 1/2	TRANSVERSE OF INLET.	5	12 1/2
TROCHANTERS.	11	28	RIGHT OBLIQUE INLET.	4 1/2	11 1/2
Spines.	9 1/2	24	LEFT OBLIQUE INLET	4 1/2	11
Crests.	10 1/2	26	HEIGHT RIGHT PELVIC WALL	4	10
External Conjugate.	6 1/2	16	HEIGHT LEFT PELVIC WALL	5 1/2	9 1/2
RIGHT EXTERNAL OBLIQUE.	8	20 1/2	HEIGHT POSTERIOR PELVIC WALL	2 1/2	11
LEFT EXTERNAL OBLIQUE	8	20 1/2	LENGTH SACRO-COCYGEAL CURVE	4 1/2	11 1/2
Height of Symphysis.	1 1/2	4	TRANSVERSE OUTLET	5	12 1/2
DIAGONAL CONJUGATE	4	10	ANTERO-POSTERIOR OUTLET COCCYGEAL	5 1/2	14
ANATOMICAL CONJUGATE	3 1/2	9	ANTERO-POSTERIOR OUTLET SACRAL	5 1/2	13 1/2
Obstetric Conjugate.	5 1/2	8 1/2	CURVE OF SACRUM	FLATTENED	
8			PUBIC ANGLE	118°	

GROUP IX.—DEFORMED PELVIS. DRIVING IN OF THE ILIUMS. CORDIFORM SHAPE OF THE PELVIC INLET. FALSE PROMONTORY.

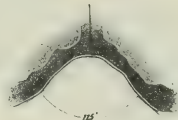
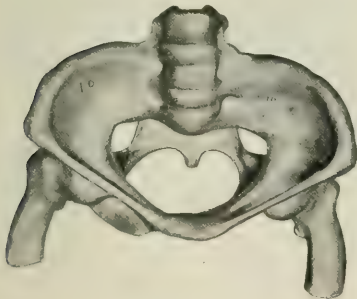
( $\frac{1}{2}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	18 3/4	16	TRANSVERSE OF INLET,	5 1/2	12 1/2
TROCHANTERS,	6 3/4	17	RIGHT OBLIQUE INLET,	4 1/2	10
Spines,	9 2/3		LEFT OBLIQUE INLET,	4 1/2	11
Crests,	7 1/4	18 1/2	HEIGHT RIGHT PELVIC WALL,	5 3/4	8 1/2
External Conjugate,	4 1/2	10	HEIGHT LEFT PELVIC WALL,	5 3/4	8 1/2
RIGHT EXTERNAL OBLIQUE,	6 3/4	17	HEIGHT POSTERIOR PELVIC WALL,	7 1/2	11
LEFT EXTERNAL OBLIQUE,	8 1/2	21 1/2	LENGTH SACRO-COCCYGEAL CURVE,	5 1/2	12 1/2
Height of Symphysis,	1 1/4	3	TRANSVERSE OUTLET,	5 1/2	12 1/2
DIAGONAL CONJUGATE,	5 1/4	13 1/2	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	2 1/2	5
ANATOMICAL CONJUGATE,	2 1/2	5 1/2	ANTERO-POSTERIOR OUTLET (SACRAL),	2 1/2	5
Obstetric Conjugate,	1 1/2	4	CURVE OF SACRUM,	FLATTENED	
9			PUBIC ANGLE	117°	

GROUP X.—RHACHITIC PELVIS. JUTTING FORWARD OF THE SACRUM. SHORTENING OF THE ANTERO-POSTERIOR DIAMETERS OF THE TRUE PELVIS. FALSE PROMONTORY. (DUPUYTREN MUSEUM.)

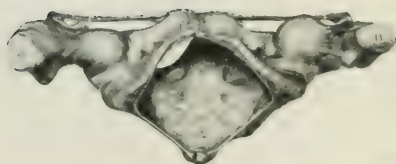
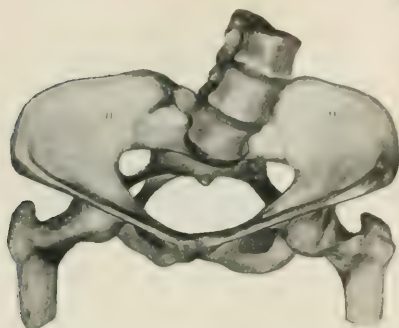
( $\frac{1}{2}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	20 1/2	52	TRANSVERSE OF INLET,	4 1/2	11 1/2
TROCHANTERS,	10 2/3	25 1/2	RIGHT OBLIQUE INLET,	4 1/2	11 1/2
Spines,	9 1/2	24	LEFT OBLIQUE INLET,	4 1/2	11
Crests,	8 3/4	22	HEIGHT RIGHT PELVIC WALL,	5 1/4	9
External Conjugate,	5 1/2	13 1/2	HEIGHT LEFT PELVIC WALL,	5 1/4	9
RIGHT EXTERNAL OBLIQUE,	7 1/4	18 1/2	HEIGHT POSTERIOR PELVIC WALL,	7 1/2	11
LEFT EXTERNAL OBLIQUE,	7 1/4	18 1/2	LENGTH SACRO-COCCYGEAL CURVE,	5 1/4	13 1/2
Height of Symphysis,	1 1/2	4	TRANSVERSE OUTLET,	5 1/4	9
DIAGONAL CONJUGATE,	5 1/2	9	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	2 1/4	7
ANATOMICAL CONJUGATE,	3 1/2	7 1/2	ANTERO-POSTERIOR OUTLET (SACRAL),	5 1/2	9 1/2
Obstetric Conjugate,	2 1/4	7	CURVE OF SACRUM,	FLATTENED	
10			PUBIC ANGLE	115°	

GROUP XI.—RHACHITIC PELVIS. JUTTING FORWARD OF THE SACRAL PROMONTORY. ANTERO-POSTERIOR FLATTENING OF THE INLET. LATERAL FLATTENING OF THE OUTLET. CORDIFORM SHAPE OF THE PELVIC INLET. ADULT. FALSE PROMONTORY.

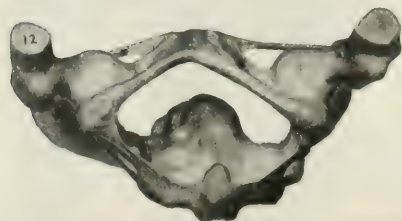
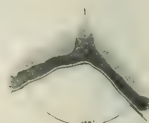
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS	CM	MEASUREMENTS	INS	CM
CIRCUMFERENCE,	19 1/2	50	TRANSVERSE OF INLET,	5 1/2	14
TROCHANTERS,	10 3/4	27 1/2	RIGHT OBLIQUE INLET,	4 1/2	10
Spines,	10 3/4	27 1/2	LEFT OBLIQUE INLET,	4 1/2	11
Crests,	10 1/2	26	HEIGHT RIGHT PELVIC WALL,	5 1/2	9
External Conjugate,	5 1/2	14 1/2	HEIGHT LEFT PELVIC WALL,	5 1/2	9
RIGHT EXTERNAL OBLIQUE,	7 1/2	19 1/2	HEIGHT POSTERIOR PELVIC WALL,	7 1/2	19
LEFT EXTERNAL OBLIQUE,	7 1/2	19	LENGTH SACRO-COCCYGEAL CURVE,	5 1/2	14 1/2
Height of Symphysis,	1 3/4	4 1/2	TRANSVERSE OUTLET,	5 1/2	9
DIAGONAL CONJUGATE,	5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	4 1/2	10
ANATOMICAL CONJUGATE,	5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (SACRAL),	5 1/2	9
Obstetric Conjugate,	5 1/2	14 1/2	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	87°	

GROUP XII.—RHACHITIC PELVIS. LATERAL DEVIATION OF THE SACRUM TO THE LEFT. SINKING IN OF THE ILLUM OF THE CORRESPONDING SIDE. SHORTENING OF THE RIGHT OBLIQUE DIAMETER OF THE PELVIC INLET. ADULT. FALSE PROMONTORY. (DUPUYTREN MUSEUM.)

( $\frac{1}{4}$  natural size.)

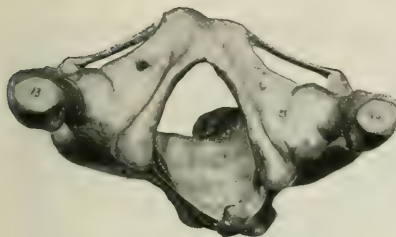


MEASUREMENTS	INS	CM	MEASUREMENTS	INS	CM
CIRCUMFERENCE,	20 1/2	51	TRANSVERSE OF INLET,	4 1/2	12
TROCHANTERS,	10 1/2	26	RIGHT OBLIQUE INLET,	3 1/2	9
Spines,	9 1/2	24 1/2	LEFT OBLIQUE INLET,	4 1/2	11
Crests,	9 1/2	25	HEIGHT RIGHT PELVIC WALL,	5 1/2	14 1/2
External Conjugate,	6 1/2	15	HEIGHT LEFT PELVIC WALL,	5 1/2	14 1/2
RIGHT EXTERNAL OBLIQUE,	7 1/2	19 1/2	HEIGHT POSTERIOR PELVIC WALL,	7 1/2	19 1/2
LEFT EXTERNAL OBLIQUE,	8 1/2	22 1/2	LENGTH SACRO-COCCYGEAL CURVE,	5 1/2	14 1/2
Height of Symphysis,	1 1/2	4 1/2	TRANSVERSE OUTLET,	5 1/2	14 1/2
DIAGONAL CONJUGATE,	5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (COCCYGEAL),	5 1/2	14 1/2
ANATOMICAL CONJUGATE,	5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (SACRAL),	4 1/2	10 1/2
Obstetric Conjugate,	5 1/2	14 1/2	CURVE OF SACRUM,	FLATTENED	



# GROUP XIII.—OVAL OBLIQUE PELVIS OF NAEGELE.

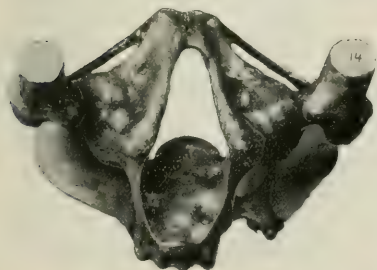
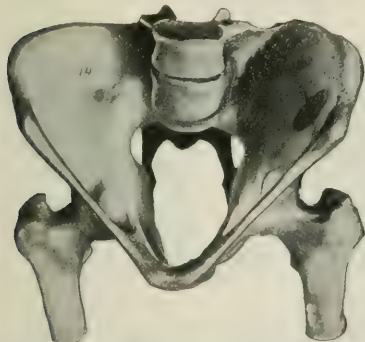
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	20 $\frac{1}{2}$	52 $\frac{1}{2}$	TRANSVERSE OF INLET,	4 $\frac{1}{2}$	11
TROCHANTERS,	10 $\frac{1}{2}$	26 $\frac{1}{2}$	RIGHT OBLIQUE INLET,	3 $\frac{1}{2}$	8
Spines,	8 $\frac{3}{4}$	22 $\frac{1}{4}$	LEFT OBLIQUE INLET,	5	12 $\frac{1}{2}$
Crests,	10	25 $\frac{1}{2}$	HEIGHT RIGHT PELVIC WALL,	4 $\frac{1}{2}$	11 $\frac{1}{2}$
External Conjugate,	7 $\frac{3}{8}$	19	HEIGHT LEFT PELVIC WALL,	4 $\frac{1}{2}$	11
RIGHT EXTERNAL OBLIQUE,	6 $\frac{1}{2}$	17	HEIGHT POSTERIOR PELVIC WALL,	4 $\frac{1}{2}$	11
LEFT EXTERNAL OBLIQUE,	7 $\frac{3}{8}$	19	LENGTH SACRO-COCCYGEAL CURVE,	5 $\frac{1}{2}$	13 $\frac{1}{2}$
Height of Symphysis,	1 $\frac{1}{4}$	4 $\frac{1}{2}$	TRANSVERSE OUTLET,	3	7 $\frac{1}{2}$
DIAGONAL CONJUGATE,	4 $\frac{3}{8}$	12	ANTERO-POSTERIOR OUTLET COCCYGEAL,	4 $\frac{1}{2}$	11
ANATOMICAL CONJUGATE,	4 $\frac{1}{2}$	11 $\frac{1}{2}$	ANTERO-POSTERIOR OUTLET SACRAL,	4 $\frac{1}{2}$	12
Obstetric Conjugate,	4 $\frac{1}{8}$	10 $\frac{1}{2}$	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	70°	

# GROUP XIV.—DEFORMED PELVIS WITH CONSIDERABLE SHORTENING OF THE TRANSVERSE DIAMETER. JUTTING FORWARD OF THE SACRAL PROMONTORY. FALSE PROMONTORY.

( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	18 $\frac{1}{2}$	47 $\frac{1}{2}$	TRANSVERSE OF INLET,	3 $\frac{1}{2}$	8
TROCHANTERS,	9 $\frac{1}{2}$	24	RIGHT OBLIQUE INLET,	3 $\frac{1}{2}$	9
Spines,	7 $\frac{3}{4}$	20	LEFT OBLIQUE INLET,	3 $\frac{1}{2}$	9
Crests,	8 $\frac{3}{4}$	22 $\frac{1}{4}$	HEIGHT RIGHT PELVIC WALL,	4	10
External Conjugate,	6 $\frac{1}{2}$	16 $\frac{1}{2}$	HEIGHT LEFT PELVIC WALL,	4	10
RIGHT EXTERNAL OBLIQUE,	7 $\frac{3}{8}$	18	HEIGHT POSTERIOR PELVIC WALL,	4 $\frac{1}{2}$	10 $\frac{1}{2}$
LEFT EXTERNAL OBLIQUE,	7 $\frac{3}{8}$	18	LENGTH SACRO-COCCYGEAL CURVE,	4 $\frac{1}{2}$	12
Height of Symphysis,	1 $\frac{1}{2}$	4	TRANSVERSE OUTLET,	1 $\frac{1}{4}$	4 $\frac{1}{2}$
DIAGONAL CONJUGATE,	4	10	ANTERO-POSTERIOR OUTLET COCCYGEAL,	5 $\frac{1}{2}$	13
ANATOMICAL CONJUGATE,	3 $\frac{1}{2}$	10	ANTERO-POSTERIOR OUTLET SACRAL,	5 $\frac{1}{2}$	14
Obstetric Conjugate,	3 $\frac{1}{8}$	9	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	37°	

# GROUP XV.—PELVIS DEFORMED BY CONGENITAL DISLOCATION OF ONE FEMUR.

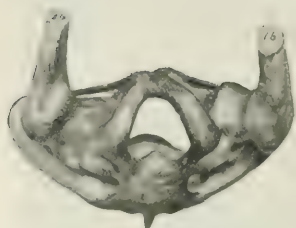
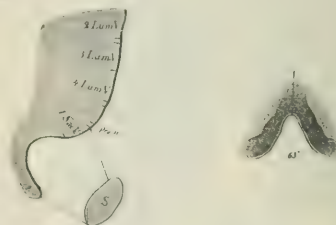
( $\frac{1}{4}$  natural size.)



MEASUREMENTS		INS	CM	MEASUREMENTS		INS	CM
CIRCUMFERENCE,		24 1/2	62	TRANSVERSE OF INLET,		5 1/2	14 1/2
TROCHANTERS,		12 1/2	32	RIGHT OBLIQUE INLET,		5 1/2	14
Spines,		10 1/2	27	LEFT OBLIQUE INLET,		4 1/2	11 1/2
Crests,		9 1/2	25	HEIGHT RIGHT PELVIC WALL,		4	10
External Conjugate,		7 3/8	18	HEIGHT LEFT PELVIC WALL,		5 1/2	14
RIGHT EXTERNAL OBLIQUE,		8 1/2	21 1/2	HEIGHT POSTERIOR PELVIC WALL,		5 1/2	14
LEFT EXTERNAL OBLIQUE,		8 1/2	21 1/2	LENGTH SACRO-COCCYGEAL CURVE,		5 1/2	14 1/2
Height of Symphysis,		1 1/2	4 1/2	TRANSVERSE OUTLET,		5 1/2	14 1/2
DIAGONAL CONJUGATE,		5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (COCCYGEAL),		4	10
ANATOMICAL CONJUGATE,		4 1/8	12	ANTERO-POSTERIOR OUTLET (SACRAL),		5 1/2	14 1/2
Obstetric Conjugate,		4 1/8	11	CURVE OF SACRUM,		INCREASED	
15				PUBIC ANGLE		114°	

# GROUP XVI.—RHACHITIC PELVIS. CHILD.

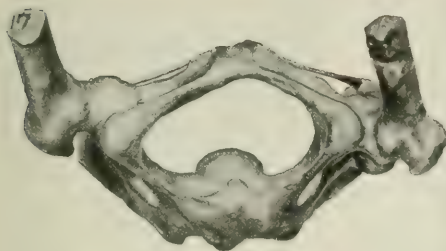
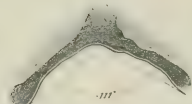
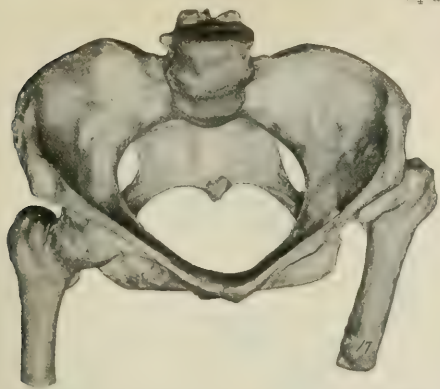
( $\frac{1}{4}$  natural size.)



MEASUREMENTS		INS	CM	MEASUREMENTS		INS	CM
CIRCUMFERENCE,		14 3/8	37	TRANSVERSE OF INLET,		4 1/2	11 1/2
TROCHANTERS,		6 1/2	17	RIGHT OBLIQUE INLET,		4 1/2	11 1/2
Spines,		5 1/2	14	LEFT OBLIQUE INLET,		4 1/2	11 1/2
Crests,		6 1/2	17	HEIGHT RIGHT PELVIC WALL,		5 1/2	14
External Conjugate,		5 1/2	14	HEIGHT LEFT PELVIC WALL,		5 1/2	14
RIGHT EXTERNAL OBLIQUE,		5 1/2	14	HEIGHT POSTERIOR PELVIC WALL,		5 1/2	14
LEFT EXTERNAL OBLIQUE,		5 1/2	14	LENGTH SACRO-COCCYGEAL CURVE,		5 1/2	14 1/2
Height of Symphysis,		1 1/2	4 1/2	TRANSVERSE OUTLET,		1 1/2	4
DIAGONAL CONJUGATE,		5 1/2	14 1/2	ANTERO-POSTERIOR OUTLET (COCCYGEAL),		1 1/2	4
ANATOMICAL CONJUGATE,		1 1/2	4 1/2	ANTERO-POSTERIOR OUTLET (SACRAL),		4 1/2	11 1/2
Obstetric Conjugate,		1 1/2	4	CURVE OF SACRUM,		INCREASED	
16				PUBIC ANGLE		65°	

GROUP XVII.—PELVIS DEFORMED BY SPONTANEOUS DISLOCATION OF THE LEFT FEMUR.

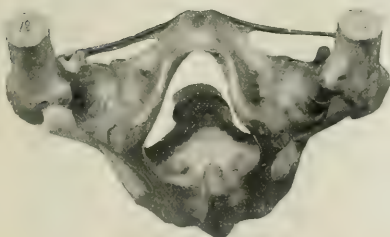
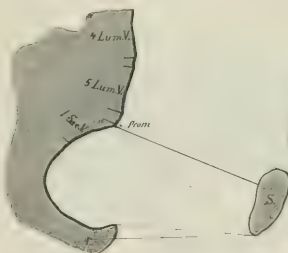
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	24	61	TRANSVERSE OF INLET,	5	12 $\frac{1}{2}$
TROCHANTERS,	11 $\frac{1}{2}$	50	RIGHT OBLIQUE INLET,	5	12 $\frac{1}{2}$
Spines,	9 $\frac{1}{2}$	25	LEFT OBLIQUE INLET,	4 $\frac{1}{2}$	11 $\frac{1}{2}$
Orests,	10 $\frac{1}{2}$	26	HEIGHT RIGHT PELVIC WALL,	4 $\frac{1}{2}$	12
External Conjugate,	6 $\frac{1}{2}$	16 $\frac{1}{2}$	HEIGHT LEFT PELVIC WALL,	4 $\frac{1}{2}$	11 $\frac{1}{2}$
RIGHT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21 $\frac{1}{2}$	HEIGHT POSTERIOR PELVIC WALL,	5 $\frac{1}{2}$	9 $\frac{1}{2}$
LEFT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21 $\frac{1}{2}$	LENGTH SACRO-COCCYGEAL CURVE,	5 $\frac{1}{2}$	14
Height of Symphysis,	1 $\frac{1}{2}$	5 $\frac{1}{2}$	TRANSVERSE OUTLET,	5 $\frac{1}{2}$	14 $\frac{1}{2}$
DIAGONAL CONJUGATE,	4 $\frac{1}{2}$	10 $\frac{1}{2}$	ANTERO-POSTERIOR OUTLET COCCYGEAL,	9 $\frac{1}{2}$	24 $\frac{1}{2}$
ANATOMICAL CONJUGATE,	4 $\frac{1}{2}$	11 $\frac{1}{2}$	ANTERO-POSTERIOR OUTLET SACRAL,	4 $\frac{1}{2}$	11
Obstetric Conjugate,	4 $\frac{1}{2}$	10 $\frac{1}{2}$	CURVE OF SACRUM,	INCREASED	
			PUBIC ANGLE	111°	

GROUP XVIII.—PELVIS DEFORMED BY OSTEOMALACIA. SLIGHT DEGREE. ADULT.  
(DUPUYTREN MUSEUM.)

( $\frac{1}{4}$  natural size.)

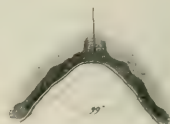
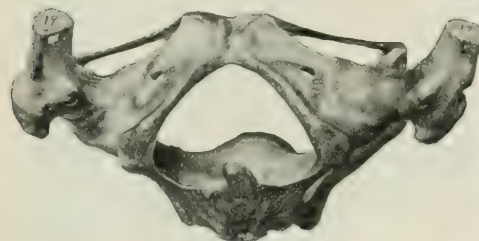
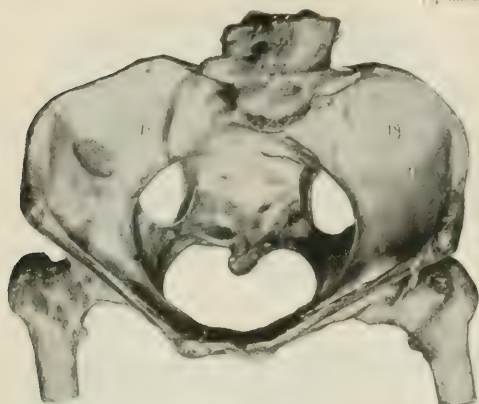


MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	20 $\frac{1}{2}$	53	TRANSVERSE OF INLET,	5 $\frac{1}{2}$	14
TROCHANTERS,	10 $\frac{1}{2}$	27 $\frac{1}{2}$	RIGHT OBLIQUE INLET,	5	13 $\frac{1}{2}$
Spines,	9 $\frac{1}{2}$	25	LEFT OBLIQUE INLET,	4 $\frac{1}{2}$	10 $\frac{1}{2}$
Orests,	10 $\frac{1}{2}$	27 $\frac{1}{2}$	HEIGHT RIGHT PELVIC WALL,	4 $\frac{1}{2}$	12
External Conjugate,	7 $\frac{1}{2}$	18 $\frac{1}{2}$	HEIGHT LEFT PELVIC WALL,	4 $\frac{1}{2}$	12
RIGHT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21	HEIGHT POSTERIOR PELVIC WALL,	9 $\frac{1}{2}$	7
LEFT EXTERNAL OBLIQUE,	8 $\frac{1}{2}$	21	LENGTH SACRO-COCCYGEAL CURVE,	5	12 $\frac{1}{2}$
Height of Symphysis,	1 $\frac{1}{2}$	5 $\frac{1}{2}$	TRANSVERSE OUTLET,	5 $\frac{1}{2}$	9
DIAGONAL CONJUGATE,	4 $\frac{1}{2}$	10	ANTERO-POSTERIOR OUTLET COCCYGEAL,	5 $\frac{1}{2}$	9
ANATOMICAL CONJUGATE,	4 $\frac{1}{2}$	11	ANTERO-POSTERIOR OUTLET SACRAL,	4 $\frac{1}{2}$	11
Obstetric Conjugate,	4	10	CURVE OF SACRUM,	INCREASED	
			PUBIC ANGLE	56°	



GROUP XIX.—DEFORMED PELVIS. FUNNEL-SHAPED ENLARGEMENT OF THE PELVIC INLET.  
CONTRACTION OF PELVIC OUTLET. (DUPUYTREN MUSEUM.)

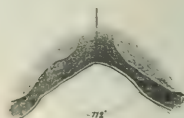
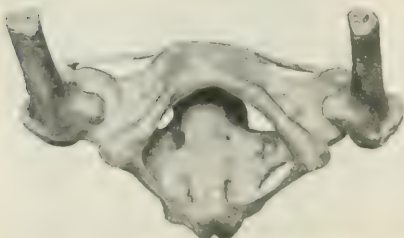
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS	CM.	MEASUREMENTS	INS	CM.
CIRCUMFERENCE,	9 $\frac{1}{2}$	6 $\frac{5}{8}$	TRANSVERSE OF INLET,	5 $\frac{1}{2}$	15
TROCHANTERS,	10 $\frac{1}{2}$	3 $\frac{1}{8}$	RIGHT OBLIQUE INLET,	5 $\frac{1}{2}$	13 $\frac{1}{2}$
Spines,	10 $\frac{1}{2}$	2 $\frac{1}{8}$	LEFT OBLIQUE INLET,	5 $\frac{1}{2}$	14
Crests,	10 $\frac{1}{2}$	2 $\frac{1}{8}$	HEIGHT RIGHT PELVIC WALL,	3 $\frac{1}{2}$	9 $\frac{1}{2}$
External Conjugate,	7 $\frac{1}{2}$	2 $\frac{1}{8}$	HEIGHT LEFT PELVIC WALL,	3 $\frac{1}{2}$	9 $\frac{1}{2}$
RIGHT EXTERNAL OBLIQUE,	9 $\frac{1}{2}$	2 $\frac{1}{8}$	HEIGHT POSTERIOR PELVIC WALL,	5 $\frac{1}{2}$	14
LEFT EXTERNAL OBLIQUE,	9	2 $\frac{1}{8}$	LENGTH SACRO-COCYGEAL CURVE,	7 $\frac{1}{2}$	18 $\frac{1}{2}$
Height of Symphysis,	2	5	TRANSVERSE OUTLET,	4	10
DIAGONAL CONJUGATE,	6	15	ANTERO-POSTERIOR OUTLET (COCYGEAL),	2 $\frac{1}{2}$	7
ANATOMICAL CONJUGATE,	5 $\frac{1}{2}$	14	ANTERO-POSTERIOR OUTLET (SACRAL),	4 $\frac{1}{2}$	11
Obstetric Conjugate,	5 $\frac{1}{2}$	13 $\frac{1}{2}$	CURVE OF SACRUM,		MODERATE
19			PUBIC ANGLE		99°

GROUP XX.—RHACHITIC PELVIS. OBSTETRIC CONJUGATE OF THE PELVIC INLET, FOUR CENTIMETRES. FALSE PROMONTORY. CÆSAREAN SECTION PERFORMED.

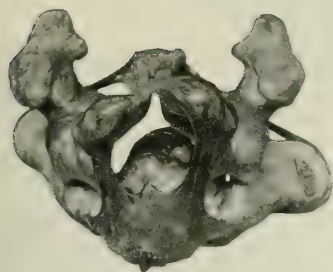
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS	CM.	MEASUREMENTS	INS	CM.
CIRCUMFERENCE,	20	5 $\frac{1}{8}$	TRANSVERSE OF INLET,	4 $\frac{1}{2}$	11 $\frac{1}{2}$
TROCHANTERS,	10 $\frac{1}{2}$	2 $\frac{1}{8}$	RIGHT OBLIQUE INLET,	4	10
Spines,	9	2 $\frac{1}{8}$	LEFT OBLIQUE INLET,	3 $\frac{1}{2}$	9
Crests,	8 $\frac{1}{2}$	2 $\frac{1}{8}$	HEIGHT RIGHT PELVIC WALL,	2 $\frac{1}{2}$	7 $\frac{1}{2}$
External Conjugate,	5	10 $\frac{1}{2}$	HEIGHT LEFT PELVIC WALL,	2 $\frac{1}{2}$	7 $\frac{1}{2}$
RIGHT EXTERNAL OBLIQUE,	6 $\frac{1}{2}$	17	HEIGHT POSTERIOR PELVIC WALL,	5 $\frac{1}{2}$	9
LEFT EXTERNAL OBLIQUE,	5 $\frac{1}{2}$	18	LENGTH SACRO-COCYGEAL CURVE,	5 $\frac{1}{2}$	13 $\frac{1}{2}$
Height of Symphysis,	1 $\frac{1}{2}$	4 $\frac{1}{2}$	TRANSVERSE OUTLET,	4 $\frac{1}{2}$	11
DIAGONAL CONJUGATE,	2 $\frac{1}{2}$	6	ANTERO-POSTERIOR OUTLET (COCYGEAL),	2 $\frac{1}{2}$	7
ANATOMICAL CONJUGATE,	1 $\frac{1}{2}$	5	ANTERO-POSTERIOR OUTLET (SACRAL),	4 $\frac{1}{2}$	10 $\frac{1}{2}$
Obstetric Conjugate,	1 $\frac{1}{2}$	4	CURVE OF SACRUM,		FLATTENED
20			PUBIC ANGLE		112°

GROUP XXI.—RHACHITIC PELVIS. OBSTETRIC CONJUGATE, FOUR CENTIMETRES AND A HALF  
CÆSAREAN SECTION PERFORMED.

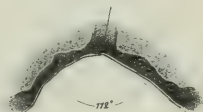
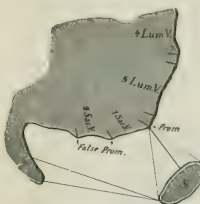
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	20	52	TRANSVERSE OF INLET,	23	7
TROCHANTERS,	8	22	RIGHT OBLIQUE INLET,	3	9
Spines,	8	22	LEFT OBLIQUE INLET,	3	8
Crests,	10	26	HEIGHT		
External Conjugate,	6	16	RIGHT PELVIC WALL,	3	7
RIGHT EXTERNAL OBLIQUE,	6	17	HEIGHT		
LEFT EXTERNAL OBLIQUE,	5	18	LEFT PELVIC WALL,	3	8
Height of Symphysis,	2	7	HEIGHT		
DIAGONAL CONJUGATE,	2	7	POSTERIOR PELVIC WALL,	2	5
ANATOMICAL CONJUGATE,	5	7	LENGTH		
Obstetric Conjugate,	1	4	SACRO-COCCYGEAL CURVE,	5	13
			TRANSVERSE OUTLET,	2	7
			ANTERO-POSTERIOR		
			OUTLET (COCCYGEAL),	2	7
			ANTERO-POSTERIOR		
			OUTLET (SACRAL),	4	12
			CURVE OF SACRUM,		INCREASED
			PUBIC ANGLE		45°

GROUP XXII.—RHACHITIC PELVIS. OBSTETRIC CONJUGATE, FOUR CENTIMETRES.  
FALSE PROMONTORIES. CÆSAREAN SECTION PERFORMED.

( $\frac{1}{4}$  natural size.)

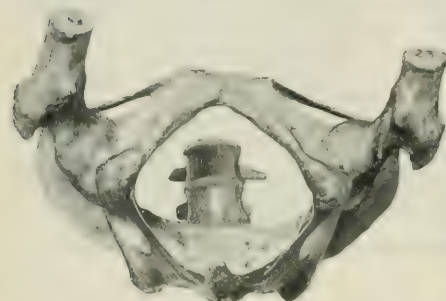


MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	20	51	TRANSVERSE OF INLET,	3	9
TROCHANTERS,	9	23	RIGHT OBLIQUE INLET,	4	10
Spines,	9	23	LEFT OBLIQUE INLET,	4	10
Crests,	8	21	HEIGHT		
External Conjugate,	5	12	RIGHT PELVIC WALL,	3	8
RIGHT EXTERNAL OBLIQUE,	5	20	HEIGHT		
LEFT EXTERNAL OBLIQUE,	4	20	LEFT PELVIC WALL,	3	9
Height of Symphysis,	1	4	HEIGHT		
DIAGONAL CONJUGATE,	2	5	POSTERIOR PELVIC WALL,	5	14
ANATOMICAL CONJUGATE,	1	5	LENGTH		
Obstetric Conjugate,	1	4	SACRO-COCCYGEAL CURVE,	5	13
			TRANSVERSE OUTLET,	2	7
			ANTERO-POSTERIOR		
			OUTLET (COCCYGEAL),	3	8
			ANTERO-POSTERIOR		
			OUTLET (SACRAL),	3	10
			CURVE OF SACRUM,		INCREASED
			PUBIC ANGLE		112°

# GROUP XXIII.—DEFORMED PELVIS. FALSE PROMONTORIES. (HEIGOTT.)

Vide Farabeuf, M., Spondyloschise, Spondylolisthese and Spondylizeme. *Bulletin de la Société de chirurgie*, 1885.

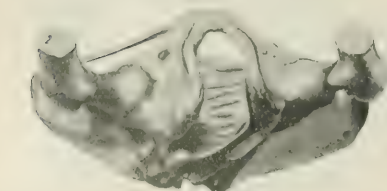
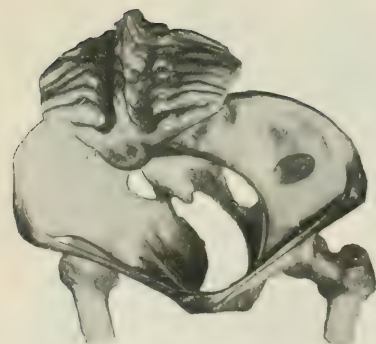
( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	25	58½	TRANSVERSE OF INLET,	5½	13½
TROCHANTERS,	11½	29	RIGHT OBLIQUE INLET,	4½	11½
Spines,	10½	26	LEFT OBLIQUE INLET,	5½	13½
Crests,	11	28	HEIGHT RIGHT PELVIC WALL,	5½	13½
External Conjugate,	6½	17½	HEIGHT LEFT PELVIC WALL,	5½	13½
RIGHT EXTERNAL OBLIQUE,	8½	21½	HEIGHT POSTERIOR PELVIC WALL,	5½	13½
LEFT EXTERNAL OBLIQUE,	9	23	LENGTH SACRO-COCCYGEAL CURVE,	4½	11½
Height of Symphysis,	1½	4	TRANSVERSE OUTLET,	5	12½
DIAGONAL CONJUGATE,	5	12½	ANTERO-POSTERIOR OUTLET COCCYGEAL,	4½	11½
ANATOMICAL CONJUGATE,	4½	11½	ANTERO-POSTERIOR OUTLET SACRAL,	5	12½
Obstetric Conjugate,	5½	13½	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	96°	

# GROUP XXIV.—DEFORMED PELVIS. (GUICHARD, OF NANTES.)

( $\frac{1}{4}$  natural size.)



MEASUREMENTS	INS.	CM.	MEASUREMENTS	INS.	CM.
CIRCUMFERENCE,	19	48½	TRANSVERSE OF INLET,	5½	13½
TROCHANTERS,	9½	24	RIGHT OBLIQUE INLET,	4½	11½
Spines,	9½	24	LEFT OBLIQUE INLET,	5½	13½
Crests,	9½	24	HEIGHT RIGHT PELVIC WALL,	5½	13½
External Conjugate,	6½	16½	HEIGHT LEFT PELVIC WALL,	5½	13½
RIGHT EXTERNAL OBLIQUE,	7½	19½	HEIGHT POSTERIOR PELVIC WALL,	5½	13½
LEFT EXTERNAL OBLIQUE,	6½	16½	LENGTH SACRO-COCCYGEAL CURVE,	5½	13½
Height of Symphysis,	1½	4	TRANSVERSE OUTLET,	5	12½
DIAGONAL CONJUGATE,	4½	11½	ANTERO-POSTERIOR OUTLET COCCYGEAL,	5½	13½
ANATOMICAL CONJUGATE,	4½	11½	ANTERO-POSTERIOR OUTLET SACRAL,	4½	11½
Obstetric Conjugate,	4	10	CURVE OF SACRUM,	FLATTENED	
			PUBIC ANGLE	96°	



## Original Communications.

### AIDS IN OBSTETRIC TEACHING.

By JAMES CLIFTON EDGAR, M. D.

(Concluded from page 707.)

#### IV. Miscellaneous Models and Aids.

A FEW metal and leather models, not classifiable under the other divisions of aids, I place under this heading.

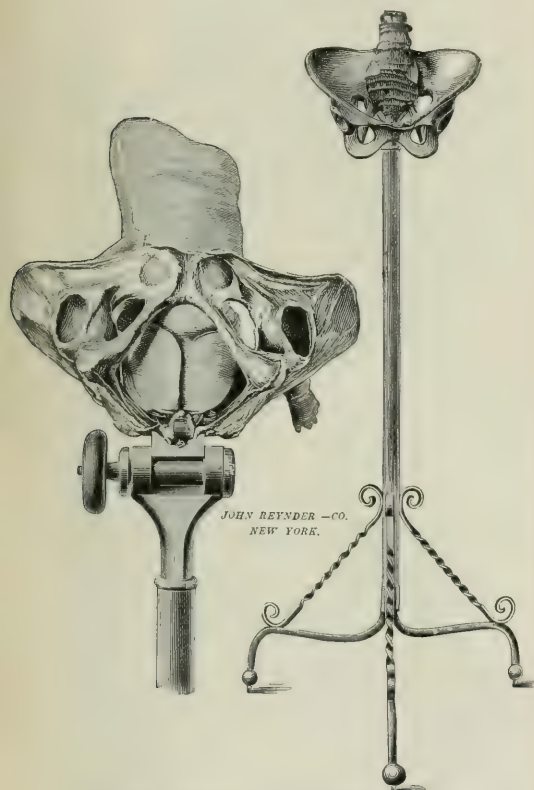


FIG. 60.—Metal pelvis and tripod. Useful for demonstrating the mechanism of labor and obstetric operations. (From a photograph.)

1. *Aluminum Cast of Sagittal Mesial Section of Bony Pelvis.\**—The first that we have to offer is a vertical mesial section of the female bony pelvis, cast in aluminum and mounted by means of a hand screw upon a blackboard, and the whole set in a tripod. By means of a narrow nickel band the right half of the pelvic brim is completed, so that the pelvic inlet shows a continuous line without a break. Rotation on a transverse axis allows us, by means of the hand screw, to place the pelvis

\* Made by the John Reynolders Company, New York.

in the position corresponding to the dorsal and upright ones, or at any intermediate angle (see Fig. 1).

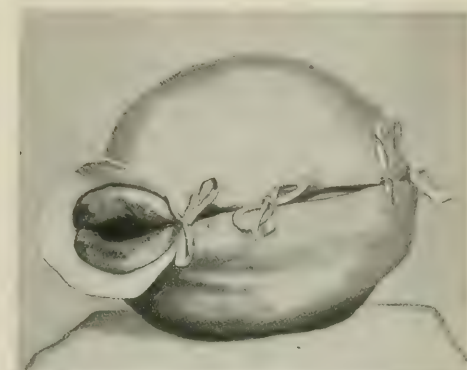


FIG. 61.—Leather model of the puerperal uterus, with double laceration of the cervix and opening at one side closed by tapes. Useful for many demonstrations. (From a photograph.) See Figs. 7 and 8.

Below the aluminum cast I have outlined permanently in white upon the board a vertical mesial section of the female bony pelvis, in the position corresponding to the dorsal one, and with the diameters and axes of the bony inlet and outlet and the axis of the parturient



FIG. 62.—Leather model of puerperal uterus, showing interior. (From a photograph.)

outlet added; such a combined blackboard and working model, we believe, has never been offered before, and without using it one can scarcely imagine the manifold and varied uses to which such a combination may be put, as the invention is equally useful in gynæcological as well as obstetrical demonstrations.

With a supply of puppets, models of uteri, and colored chalk at our disposal, there is scarcely an obstetric or gynecological condition that will not admit of a concise ocular demonstration.

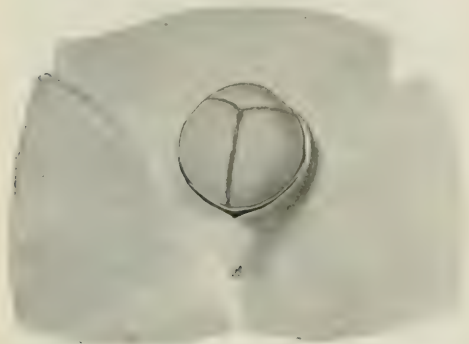


FIG. 63.—Reproduction in rubber of a plaster cast, taken from Nature, of the buttocks and vulva. Useful for demonstrating the mechanism and management of the second stage of labor. (From a photograph.)

The metal pelvis (Fig. 70) can, with advantage, be used, in conjunction with the present sagittal section of the pelvis, in many ways that will readily suggest themselves to the demonstrator. If desired, the same tripod will answer for both contrivances.



FIG. 64.—External genital organs. Nullipara. From cadaver. (Copper-plated plaster cast; from a photograph.)

Fig. 1 shows the model and blackboard mounted upon the tripod, and Figs. 2 to 6 indicate a few of the many ocular demonstrations that may be given with it.

2. *Complete Metal Pelvis.*\*—The complete metal pel-

vis, mounted upon a tripod, has already been described and figured in a paper upon obstetric manikins\* but I take the opportunity of reproducing it here (Fig. 60).

Its utility is attested by the fact, as the instrument maker informs us, that it has been supplied to many of the medical schools of this country and Canada.†

3. *Leather Model of Puerperal Uterus.*‡—Such a simple and inexpensive model as that depicted in Fig. 61

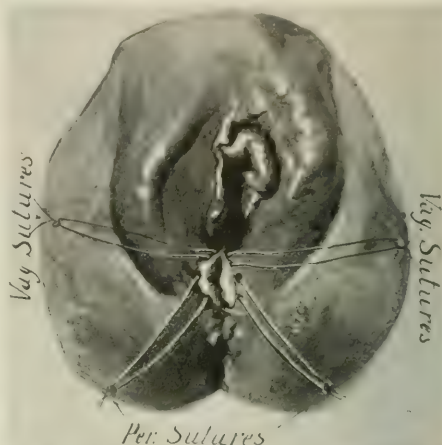


FIG. 65.—Vagino-perineal laceration involving the right lateral sulcus. Two internal, or vaginal, and two external, or perineal, sutures in place ready to be tied. (Copper-plated plaster cast; from a photograph.)

can readily be made to do duty in various kinds of demonstration. It is constructed of chamois leather, lined with canvas, and may be opened along one lateral half, the opening being closed with tapes (Fig. 62).

\* Edgar. The Manikin in the teaching of Practical Obstetrics. *New York Medical Journal*, December 27, 1890.

† The following is the original description: For demonstrating the mechanism of labor before a large class—the application of the forceps, cranioclast, cephalotribe, and other obstetric instruments; the various methods of performing version; the different methods of manual extraction, whether by the head, shoulders, breech, or lower extremities—the gun-metal pelvis, covered with leather and mounted upon a tripod, has proved itself exceedingly useful (Fig. 60).

The pelvis is practically indestructible, and is so mounted (Fig. 60) upon the upright of a tripod as to permit of rotation in an entire circle in a horizontal plane, which allows the pelvic outlet or inlet to be directed to any point desired.

Besides complete rotation in the plane of the horizon, partial rotation upon a transverse axis is also easily and quickly secured, and a simple device (Fig. 60), in the shape of a small wheel at the side, enables one to fix the planes of the pelvis (represented by cardboard if need be) at any desired angle with the horizon.

If desirable, for greater convenience and accuracy, a simple scale may be added at the side, which will enable one to read off at a glance the angle produced. A movable coccyx permits recession during the passage of the fetus, and a spring throws it back again to its true position. A false sacrum, controlled by a thumbscrew passing through the true sacrum, enables one to illustrate contraction of the pelvis in its antero-posterior diameter, or to fix the presenting part of the puppet or fetal cadaver in any desired position.

‡ Made by the John Reynolds Company, New York.

\* *Ibid.*

The cuff of the partly cut away vagina is represented by a piece of leather, and the cervix made to show a bilateral laceration, extending in each instance as far as the uterovaginal junction.

The whole roughly resembles the puerperal uterus at the beginning of the puerperium.

This uterus can be utilized in a variety of ways: alone to show manual expression of the placenta; in conjunction with the metal pelves to demonstrate the axis of the puerperal uterus and puerperal canal and Credé's method of placental expression, or with any ordinary manikin, to illustrate the technics of various puerperal obstetric procedures. With this simple model, together with some gauze, volsella forceps, dressing forceps, needles, ligatures, curettes, and a speculum, the student may be made familiar with that manual training necessary to ligate the bleeding points in a deeply lacerated cervix; to pack safely the puerperal uterus with gauze to control hæmorrhage or secure drainage; to use properly the puerperal curette, so as to reach safely the fundus with the cautious upstroke, and to clear it of *débris* with the more forcible clean downward sweep, not neglecting to clear the cornua at the same time.

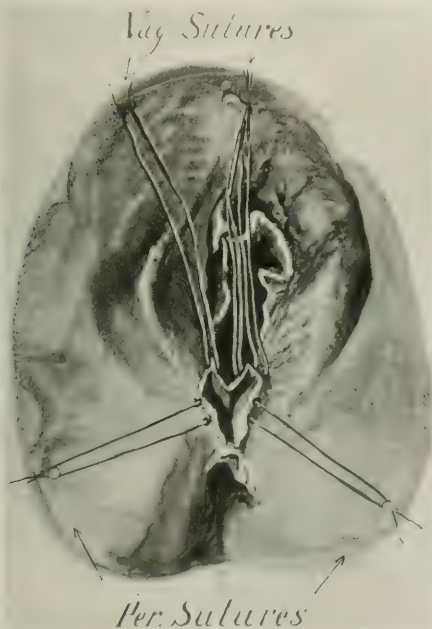


FIG. 66.—Vagino-perineal laceration involving both lateral sulci. Three internal, or vaginal, and two external, or perineal, sutures in place ready to be tied. (Copper-plated plaster cast; from a photograph.)

In order that the student shall acquire this manual training, it has been our custom to place the proper instruments in his hands and require him to carry out the

procedures above referred to. His handling of the curette is then criticised; the model is opened and the

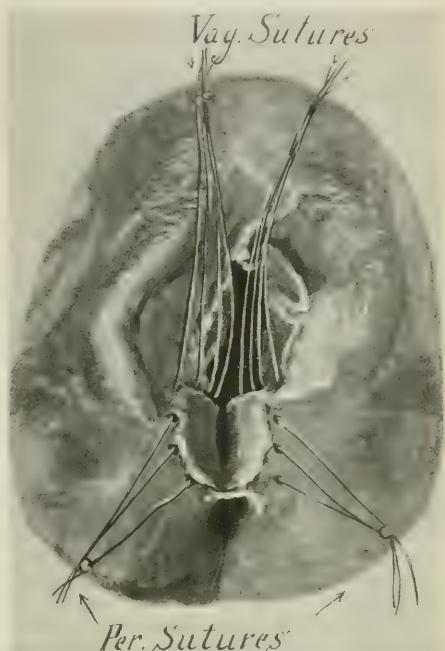


FIG. 67.—Vagino-perineal laceration involving right postero-lateral vaginal wall and perineum to the sphincter ani. Four internal, or vaginal, and three external, or perineal, sutures in place ready to be tied. (Copper-plated plaster cast; from a photograph.)

manner of the gauze packing inspected, and if he has failed to reach the fundus with the gauze, his fault explained to him. So also the ligature in the cervical laceration is looked to, and the student's errors in technic corrected.

I have intended in this model to supply to the student the means and the opportunity to acquire that kind of manual training in certain obstetric procedures which may never occur to him until he is in active practice, and, moreover, the manual training that will save the physician's first cases of confinement much that would otherwise be but crude and experimental, if not actually dangerous, treatment.

Fig. 7 represents the use of the leather uterus in a manikin. The uterus, drawn down into the vulva by means of two volsella forceps, and is held by an assistant; with blunt-pointed dressing forceps the student proceeds to pack the uterus with gauze from a glass receptacle, the fingers and palm of the left hand being used as a trough to guide the gauze directly from the glass tube into the uterine cavity, thus avoiding all contact with adjacent unclean tissues.

Fig. 8 illustrates the uterus drawn down in the



same manner, and the student with needle and holder applying a ligature to a bleeding lacerated cervix.

ter cast in this model was first taken from the living subject, this in turn cast in iron, and from this latter rubber



FIG. 68. Laceration of right postero-lateral vaginal wall, perineum, and anterior rectal wall through the sphincter. Four rectal sutures and one silver wire suture, the latter trans-fixing torn ends of sphincter muscle and encircling apex of rectal laceration, in place and ready to be tied. (Copper-plated plaster cast; from a photograph.)

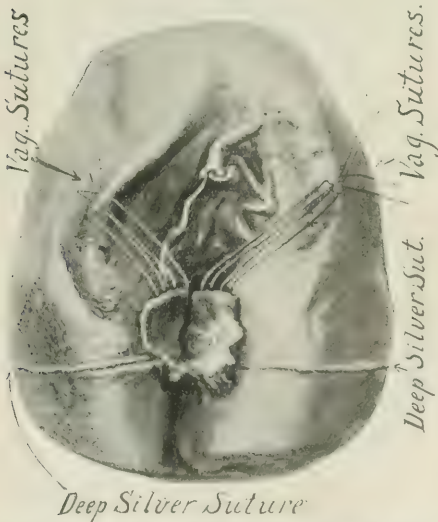


FIG. 69. Rectal sutures of Fig. 68 tied and cut short in rectum. Silver wire sphincter suture and four vaginal sutures in place and ready to be tied. (Copper-plated plaster cast; from a photograph.)

4. Rubber Perineum and Vulva.—In Fig. 63 is shown a rubber pelvic floor taken from Nature. A plas-

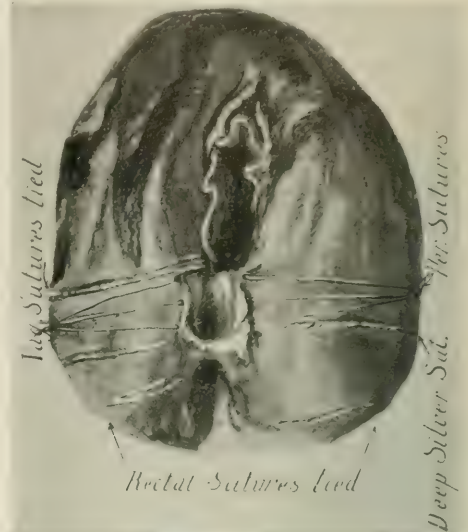


FIG. 70. Vaginal sutures of Fig. 68 tied. Three perineal sutures in place, ready to be tied. (Copper-plated plaster cast; from a photograph.)

models were made. It supplies the place of the ordinary manikin for class-room, clinic, or ward demonstration,

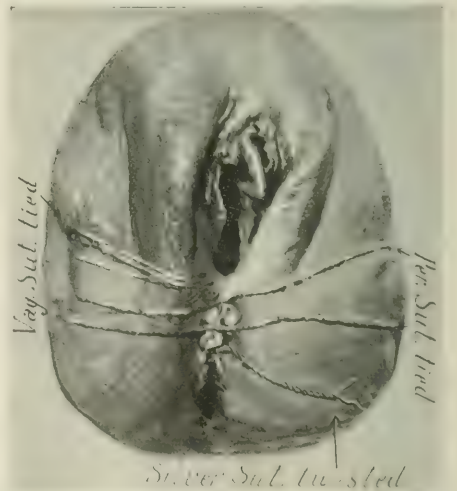


FIG. 71. Perineal sutures of Fig. 70 tied. Ends of deep silver suture trans-fixing sphincter muscle twisted. Ends of rectal sutures hidden by closed anus. Vaginal sutures seen to the right. (Copper-plated plaster cast; from a photograph.)

and has the additional advantage of being readily portable and capable of being kept perfectly clean.

### V. Electro-plated Plaster Models.

Experience has taught us that the *papier-mâché* method is not applicable for very small objects where minuteness of detail is required. I refer more particularly to the non-pregnant uterus, the pregnant uterus in the early months, conditions of the cervix, lacerations of the vagina and pelvic floor. We have therefore hit upon a method of illustration which has given the greatest satisfaction, and secures for us a model which is comparatively light, practically indestructible, and leaves nothing to be desired in accuracy of detail, as the original and permanent model is a plaster cast taken from Nature.

If, for example, a reproduction of the multiparous uterus is desired, as soon as possible after its removal from the cadaver a model in plaster of Paris is taken of it. From this model, subsequently, any number of casts or models may be reproduced. These are allowed to dry thoroughly, and are then sent to an electrotyper, who, at a trifling expense, throws a layer of copper over the plaster cast, and afterward the model can be colored in any desired manner. In this way were obtained the smaller uteri represented in Figs. 10 and 11, and the several degrees and varieties of perineal lacerations artificially produced upon the cadaver and represented in Figs. 64 to 71.

We need not confine ourselves to plaster as regards copper-plating, as bone, composition, and clay may be subjected to the same process. All the models of pelvic deformity (groups 1 to 24) were treated in the same way for the sake of strength and durability.

1. *Lacerations of Vagina, Perinæum, and Anterior Rectal Wall.*—My aim in this direction has been to produce a series of models that shall illustrate the ordinary degrees of vaginal, perineal, and rectal lacerations produced during childbirth. To this end at first I confined myself to plaster casts taken from the living subject at the completion of the puerperium. This proved unsatisfactory, however, because of contraction and distortion of the parts in question, so that the series herein offered represents plaster casts of artificially produced lacerations with the knife upon the cadaver. The positive mold being taken in plaster of the injury produced, a second positive in glue was taken from this, and then negative plaster casts taken from the glue positive and copper-plated. These latter are then completed by the insertion of sutures by means of an ordinary drill.

This series includes (1) a cast of the nulliparous genitals, showing the fourchette, from which the subsequent casts, with injuries, were secured (Fig. 64); (2) a vagino-perineal laceration involving the right lateral vaginal sulcus, with sutures for repair in position (Fig. 65); (3) vagino-perineal laceration, involving both lateral sulci, with sutures for repair in position (Fig. 66); (4) vagino-perineal laceration, involving right postero-lateral vaginal wall and perinæum to the sphincter ani, with sutures for repair in position (Fig. 67); (5) laceration of right

postero-lateral vaginal wall, perinæum, and anterior rectal wall through the sphincter, sutures for repair of rectal wall, and suture, including sphincter, in place (Fig. 68); (6) rectal sutures tied and cut short, wire sphincter suture ready to be tied, vaginal sutures in position (Fig. 69); (7) vaginal sutures tied, external perineal sutures in position (Fig. 70); (8) external perineal sutures tied (Fig. 71).

2. *Pelvic Deformity.*—The subject of pelvic deformity has always been one of the driest and most uninteresting to the student, and one of the most difficult for the instructor to teach. Little more than a temporary impression is made by diagrams, verbal and printed descriptions, and by perhaps an occasional clinical demonstration of some form of pelvic deformity, so that at graduation, and even later in the pupil's professional career, the various deformities, whether they be congenital or produced by rachitis, osteomalacia, ankylosis, or adventitious causes, too often escape notice until the patient is perhaps well in the first stage of labor. We have always believed that the best, if not the only satisfactory method for the pupil to acquire an intelligent appreciation of this subject is to place in his hands the various deformed pelves, and with the normal type in view before him require the student to point out the departures from the normal in the deformed pelvis. This can readily be made a stepping-stone to the causes of such abnormalities, the diagnosis and prognosis of the same, and the treatment appropriate to meeting the condition in pregnancy or labor. Commencing with the moderate deformities, the more marked and rarer conditions can then be gradually approached. So in the obstetric clinic, hospital ward, or the dispensary, examination of pregnancy, varieties of pelvic deformity, with their prognosis and treatment, can be brought home to pupils in a manner never before thought possible, if at our command we possess a series of deformed pelves from which one resembling, if not exactly corresponding to, the abnormality can be chosen. Heretofore this want we have been unable to meet in the recitation room or hospital. The limited number of specimens of pelvic deformity to be found in any single college or hospital museum are practically non-accessible to the student or practitioner, and surely are too valuable and fragile to allow of repeated handling and study.

Recently Tramond,\* of Paris, has completed a series of twenty-two deformed pelves.

This collection consists of twenty-two plaster models, with artificial ligaments added, being correct reproductions of the originals now in possession of private individuals or of the museums of Paris.

The series offers examples of the principal malformations, and there are in addition two pelves of normal conformation—namely, the male and female types, making twenty-four models in all.

\* Maison Vasseur, 9 rue de l'École de Médecine.

In a number of the titles of the pelves herein given is included the owner of the original or the museum where found. Such a collection has been of great help to us for several years past, and had we not hit upon some means to render the models more durable, would not at the present writing be presentable. To meet the wear and tear of repeated handling and demonstration, we have had these pelves sent to an electrotyper and a thin film of copper thrown over them. This copper-plating does not, to any extent, change the proportions of the original pelves, but renders them practically indestructible, and a coat of paint will easily restore the original natural appearance. Very slight additional weight is added, and the plated model can be cleansed and thus rendered free from suspicion for clinical or bedside demonstration.

Believing this series of deformed pelves to be of value not only to the teacher of obstetrics but to the general practitioner and surgeon as well, I have made it a basis of study, making complete measurements of each pelvis, offering a photograph of the pelvic inlet and outlet of each, an outline of a lead cast to show the vertical mesial section, with the lumbo-sacro-coccygeal curve, the inclination and shape of the symphysis, and the relations of the anatomical, obstetric, and diagonal diameters of the pelvic inlet, and also the sacro- and coccygo-pubic diameters of the outlet.

Of the three conjugates appearing in each vertical mesial section, I have emphasized the obstetric by drawing here a heavier line, and it is well to state at this point that we define the obstetric conjugate as the available antero-posterior diameter of the pelvic inlet.

50 EAST THIRTY-FOURTH STREET, NEW YORK.

OBSERVATIONS UPON  
THE FORMATION, STRUCTURE, FUNCTION, AND PATHOLOGY  
OF FISTULOUS PASSAGES OR SINUSES,  
ESPECIALLY THOSE WHICH  
CONSTITUTE ANAL AND RECTAL FISTULÆ,  
AND THE TENDENCY SOMETIMES  
OF SUCH TO SPONTANEOUS OBLITERATION AND CURE.

BY WILLIAM BODENHAMER, M.D., LL.D.,  
NEW ROCHELLE, N. Y.

It will be conceded that this particular subject, which the writer has selected for discussion on this occasion, has been till lately but little investigated by surgeons generally, either from not considering it of sufficient importance, or from not having had their attention especially and properly directed to it. It is a subject, however, in the estimation of the writer, that should not be neglected, but is well worthy of further consideration.

The writer in 1847, while in New Orleans, paid considerable attention to this subject, and promulgated his views upon it; since then he has, on one or two occasions, repeated the same; but, in consequence now of the

conflicting opinions of some recent authors regarding some parts of it, he feels called upon to resume again the further consideration of it.

Before entering fully upon the main features of the subject, the writer will endeavor to give the etymology, signification, and correct application of the word *fistula*, the importance of which will scarcely be called in question, especially when it is considered that there is perhaps no technical term in medicine more misapplied or indiscriminately used.

*Description and Definition.*—In describing any disease it is of the utmost importance to give, in the first place the etymology, signification, and application of its name. It is well known, however, that this self-evident truth is, singularly enough, almost always ignored by both authors and lecturers on the diseases *fistulæ* and *hæmorrhoids*. The Latin word *fistula* signifies a reed—hence a pipe, or a hollow cylinder. The ancient Latin authors called a catheter *fistula*, and a clyster pipe the same. Some recent authors erroneously, however, derive the word *fistula* from the Latin *fundo*, to pour out. But the Latin word *fistula*, in the opinion of the writer, finds its true prototype in the Greek word *σὺριγξ*, a pipe or flute, being derived from the Greek verb *σὺριγναι*, to whistle. The Greeks used the word *σὺριγξ* to represent the same disease which the Latins call *fistula*, as will be shown hereafter. The ancient flute or pipe was a hollow cylinder open at both ends; the modern flute or pipe is closed at the upper end. The name *fistula*, then, is very evidently taken from the similitude which the narrow cavity of a fistulous tube or tract has to that of a reed, pipe, or flute. This word, however, has, to a great extent, become disqualified for technical use by its numerous untechnical applications.

The term *fistula*, then, in pathology, simply denotes a narrow tube or conduit of variable length leading to a free surface from an abscess, cavity, or a normal canal, the seat of some local inflammation or irritation, and having a small orifice through which fluids or extraneous matters are discharged, greatly disproportionate generally to the extent of the morbid affection.

Paulus Ægineta says: "A *fistula* is a callous sinus, generally formed from an abscess, and derives its name from the pipes of reeds (*fistulæ*)." (*Libri Septem*, Græce et Latine, lib. iv, cap. xlix, folio, Basileæ, 1532.)

Celsus defines a *fistula* as follows: "Id nomen est ulceri alto angusto calloso." (*De Medicina*, lib. v, cap. xxviii, sec. 12.) Of all the ancients, Celsus has given the most minute, correct, and extensive description of *fistulæ*; indeed, there is nothing extant on the subject any more appropriate, even at the present time. Almost all the early writers defined the word *fistula* thus: "Sinus angustus callosus profundus; acri sanie diffluens."

In modern times, Dionis, the able French surgeon, defined the word *fistula* "Un ulcère profond et caverneux dont l'entrée est étroite et le fond plus large; avec issue d'un pus acre et virulent; et presque toujours ac-



compagné de callosités." (*Cours d'opérations de chirurgie*, édit. par M. De la Faye, tome i, p. 405, 8vo, Paris, 1782.)

The able Mr. Pott describes a fistula as follows: "The smallness of the orifice of the accidental canal; the hardness of its edges; its being found to be the outlet from a deep cavity; its discharging a thin, gleety, discolored kind of matter, attended with great induration of the surrounding parts—are all of them circumstances raising and confirming the idea of a true fistula." (*The Chirurgical Works*. Edited by Sir James Earle, vol. ii, p. 205, imp. 8vo, Philadelphia, 1819.)

The Latin term *sinus* is from the Greek *χάος*, a void, a cavity, and it and the term *fistula* are generally employed by many authors as synonymous, especially by many of the ancient writers; there is evidently, however, a difference, but in what it exactly consists is not so easily determined, in consequence of the numerous and various definitions and applications of it. A fistulous passage is narrow or of small calibre, and may have an internal as well as an external orifice, whereas a sinus is much wider, and has but one orifice, which is external. Medical lexicographers, however, usually define it a gulf, a cavity, or depression; or a long, hollow passage leading from an abscess, diseased bone, etc. But almost the same may be predicated of fistulous canals.

It may also be remarked here that the ancients, as well as some of the moderns in their definitions of fistula, include callosity as an essential element, but this is an error, as there are many cases of fistulæ unaccompanied by callus, as the writer has often observed, as well as have others. In the early stage there is scarcely ever any induration and thickening of the tissues in and around the fistulous tract; but in process of time these are brought about by frequent and long-continued irritating and inflammatory changes. This callosity in former times was considered by some to be of a scirrhous or cancerous nature, and subjected to very severe and injurious treatment. Some authors have said that the callous condition of fistulæ was produced by the ancient treatment of the fistulæ, which, say they, consisted of the introduction into the fistulous passages of highly irritating substances on tents or pledgets of lint, which constantly so excited and irritated the fistulæ as tended strongly to produce this callous state of the parts. But neither such treatment by the ancients nor by the moderns is the cause of this callosity. Such treatment, however, is much more applicable to some of the moderns than to that of the ancients. It is well known that more or less induration supervenes to inflammation, especially of the cellular tissue; and it is particularly observed in the callosities which follow the course of fistulæ in the ano-perineal region, which abounds in such tissue. The contraction and hardness in fistulous tracts take place very gradually, some considerable time after the acute inflammation, swelling, redness, heat, and pain in the

cellular membrane are entirely dissipated. These callosities, however, do not usually produce any other bad effect than that, perhaps, of retarding the cure of such fistulæ.

*The Improper Use of the Term Fistula.*—The term fistula is often misapplied, or is used in an indefinite or vague sense, thus giving a very inadequate idea of the true nature of the affection. Instead of simply denoting a pipelike or tubular sore, which is all that it does, or merely signifying the pipe, drain, or medium of conveying a fluid or extraneous matter to the surface, it is often applied to simple abscesses or to suppurating excavations, especially to all such in the vicinity of the anus. This departure, however, from its strict signification is doubtless caused, in this instance, by the fact that an abscess in the anal region most always precedes anal fistula, and that it is the initiative in the production of fistula. Abscess and fistula in the anal region stand in the relation of cause and effect, hence this complication is usually confounded, and the term fistula made to include too much. This distinction, however, is important, and must not be lost sight of, for the indications in the treatment of simple abscesses and fistulous tracts are essentially different. An anal abscess may or may not result in fistula, but it is liable, from various causes, sooner or later, to become fistulous, and when it does, the following is the process: After the pus in the first instance is evacuated, its parietes do not approximate and its cavity is not spontaneously obliterated, and it establishes in its walls one or more pipes or canals, which are fistulæ, and through which it discharges its secretions. An anal abscess may also become fistulous by its cavity gradually diminishing until it becomes itself a hollow cylinder or pipe. It is in this manner, then, that in time a definite organization is finally established, constituting a fistula. An anal abscess may, however, under favorable circumstances, terminate without becoming fistulous. If the artificial or the spontaneous opening of the abscess is made sufficiently large to completely empty it at once, the extent of its cavity diminishes rapidly and its parietes approximate, and we know, as in a wound, how they are simply agglutinated by means of the albumin and the fibrin, the blastema or blood plasma of the liquor sanguinis, which process either removes or prevents the action of the peculiar accidental tissue which lines abscesses and fistulous passages, and which will be described hereafter. It is therefore highly important, if not contraindicated, that an anal abscess should be opened in its most dependent part by a free incision just as soon as the slightest fluctuation can be detected in it.

An abscess, consequently, should not be called a fistula until it has in time acquired the characteristics plainly specified in the term.

The word fistula is also applied to many other affections which have no claim whatever to the appellation; for instance, it is indiscriminately applied to the diseases

of the lacrymal organs as well as to the following lesions: vesico-vaginal, urethro-vaginal, recto-vaginal, recto-vesical fistulæ, etc. But where, we ask, is the resemblance in them to the thing represented or signified by the term? These lesions or diseases are not fistulæ, but mere openings, breaches, or perforations; and their junction or communication is not effected by a pipe, tube, or canal. The great impropriety of denominating these affections fistulæ was demonstrated some years ago by MM. Jobert (de Lamballe) and Vidal (de Cassis). (*Annales de chirurgie*, mai, 1845.)

Mr. Bryant, the distinguished surgeon to Guy's Hospital, London, has, however, very cleverly disposed at once of the incongruity of the application of the term fistula to the lesions or affections just mentioned, as well as to all others of a similar nature, by making an entirely new definition of fistula, strictly conformable to the exigencies of the case. He says: "A fistula is an unnatural communication between a normal cavity or canal and the outside of the body or a second cavity or canal." (*The Practice of Surgery*, pp. 420, imp. 8vo, Philadelphia, 1873.)

It will be perceived, however, that the etymology and the signification of the word fistula are entirely ignored in Mr. Bryant's definition. In concluding this part of the subject the writer would only remark that the definition of the word fistula, as found in the hands of some recent authors, is furnished with very expansible qualities, so as to include or embrace that for which it was never intended. But these authors say that this definition should be employed or understood in a broad or comprehensive sense. Now, such authorities must know that if any definition or technical term of anything whatever is used in its broad or loose manner, it completely disqualifies it as a definition or as a technical term, and is utterly inconsistent and unreasonable.

*The Formation, Structure, and Pathology.*—The writer will now enter into a general consideration of the seat, development, organization, and properties of fistulæ.

It is known that fistulous canals may be developed in the different tissues of the body, but they are most frequently observed in the cellular membrane, and as this membrane is more thickly dispersed about the margin of the anus and in the perinæum, it is in these localities, therefore, that abscesses and fistulæ are most commonly developed. Indeed, the cellular tissue favors the formation and extension of these fistulous tracts, in consequence, doubtless, of the ready passage it affords to fluid matters, which often make their way rapidly in different directions in it with but little hindrance, it being the softest and most yielding of all the tissues of the body.

These fistulous passages, when developed in the anoperineal region, are generally single, but they often ramify at their extremities, usually communicating with each other with one or more external openings, and converging generally to but one internal rectal aperture. Their

direction is most frequently sinuous or tortuous, yet they are sometimes straight, and they often present numerous contractions and dilations in their course, and occasionally become insulated.

In the exploration of these often crooked passages the probe, if straight and inflexible, can not be made to follow the obliquities of them. The probe must be so flexible as to be capable of being bent or curved to such an extent previous to its introduction as to readily follow the track of the passage, and thus made, if possible, to discover the exact extent, the true bottom, or the internal opening, if any exists. These abnormal canals possess various degrees of sensibility; the introduction of the probe into them is sometimes productive of severe pain, while at other times the presence of the probe is readily tolerated.

The discharge from and through fistulous passages may present characteristics of pus, gleet, sero-purulent, sanguineo-serous, or mucous matter, but the discharge varies like the cause; sometimes it is white and consistent, often it is thin and flaky, at other times pure, and again it is mixed with the product of some natural secretion, according to the location of the fistula, the general health of the patient, the length of time the affection has subsisted, etc.

M. Dupuytren treats the subject of fistulous passages in a very able manner. After giving their formation and structure he says: "These accidental passages are formed at the expense of all the tissues in their immediate vicinity, taking the elements of their organization from them—hence the fibrous, nervous, mucous, and osseous tissues may all enter into their composition, according to the locality of the fistula. Mucous tissue, osseous substance, nerves, veins, and cellular tissue have been found in their organization, according to the parts in which they originated and through which they passed." (*Leçons orales de clinique chirurgicale*, tome ii, 8vo, Paris, 1834.)

*The Adventitious Tissue.*—The peculiar accidental tissue, previously alluded to, which lines the internal surface of these abnormal passages bears some analogy, by its organization, properties, and functions, to the natural mucous membrane. Indeed, this peculiar tissue, which is neither a pseudo-membrane nor a mucous membrane, commences to be organized in all abscesses at a certain stage, just before they spontaneously open or are lanced, and it completely circumscribes the purulent collection in them; and should any of such abscesses subsequently result in fistulous passages, these will be found lined with the same kind of tissue.

Mr. John Hunter was the first to call attention to the existence of a peculiar tissue lining fistulous passages, apparently like mucous membrane. He says: "The internal surface of fistulæ has an appearance similar to that of a secretory membrane, and may be compared to the urethra." And again he says: "I believe that a deep wound, such as that from a gunshot, on pro-

ceeding to suppuration and forming a fistulous canal, becomes in some degree analogous to an excretory canal, having the power of producing peristaltic motions from the bottom to the external opening." (*A Treatise on the Blood, Inflammation, and Gunshot Wounds*, 4to, London, 1794.)

M. Dupuytren especially calls attention to the apparently mucous membrane which lines the inner surface of the fistulous canals. He considered this peculiar tissue to be a real mucous membrane, similar to the normal mucous tissue, and differing from it only by the absence of follicles and a layer of epidermis. M. Breschet has also produced an able article upon this subject, entitled *General Reflections on Fistulæ*, and on the Formation of an Accidental Membrane in their Course. Of this membrane he remarks: "The organic elements of the adventitious membrane of fistulæ have the greatest analogy with those of the mucous membranes. This membrane is separated from the surrounding parts by a greater or less extent of cellular tissue, which may be termed submucous, and it contains a portion of that structure in its composition, as may be demonstrated by maceration." (*Journal universel des sciences médicales de Paris*, juin, 1818.)

No regularly developed anal fistula is destitute of this adventitious tissue lining its internal surface; it is indeed essential to the formation of the disease, and in simple cases it is often the only organic change existing. According to M. Dupuytren and M. Breschet, this tissue, in proportion as it acquires age, undergoes considerable changes, becoming more and more like mucous membrane, and at a late period of its existence it will be found red, and its redness reveals many small blood-vessels which terminate on its surface by exhalants, the existence of which is evident by the secretion of fluids; and also, like the mucous membrane, it will be found soft and villous, and if examined with a glass the villousities may be distinguished. (*Op. cit.*)

The few cases, however, in which the writer himself carefully examined this tissue, which were all of recent origin, however, he found it much thinner, more delicate, and of a paler red color than the normal mucous membrane; neither was it as soft, velvety, and firm, and, when examined with the glass, he found its surface slightly tomentose and its texture filamentous, and the blood-vessels and the villi were quite easily discernible. This tissue is evidently a low formation of the cellular membrane, and is of such a feeble character as to be easily removed by curetting or by the mildest escharotics, as the writer has often demonstrated.

Although this peculiar tissue possesses several strong traits of resemblance to the natural mucous membrane, yet the difference between them is so remarkable that their perfect identity can by no means be established or admitted. It may be said, however, that it is more analogous, perhaps, to the mucous membrane than to any other species of structure. M. Dupuytren considers this

tissue to be a real mucous membrane, but admits that it is destitute of follicles and a layer of epidermis. This, however, is no inconsiderable difference, as it lacks the cuticle to protect it, and those important glandular bodies, the mucous follicles, which are dispersed throughout the mucous membrane and secrete a viscid fluid for the lubrication of its surface. These, however, are not the only differences of organization between the accidental tissue and the natural mucous membrane; the former is known sometimes to be spontaneously effaced, and the fistulous passage it lines is obliterated; or it may be easily displaced artificially with the same result. This, under similar circumstances, however, can not be said of the latter, inasmuch as such an occurrence is rarely or never observed. For instance, the mucous membrane of the intestinal canal, below an artificial anus, either in the groin or in the loin, remains normal and continues to secrete mucus, and the canal itself, too, remains pervious, although all the fæcal matters are diverted from it and no spontaneous obliteration ever occurs.

This peculiar tissue or inclosing cyst of abscesses, and which also lines fistulæ, has been called pseudo-membrane by some, but it is evidently not so, as can be easily demonstrated. A false membrane is known to be an exudation of a fibrinous character, chiefly from the capillaries of inflamed mucous membranes, and is deposited in layers on their surface, as in croup, diphtheria, etc., and is analogous to the exudation on serous membranes. Indeed, this accidental tissue is neither a false membrane nor a false nor a true mucous membrane, but it is *sui generis*. The learned Lobstein has denominated it "tissu pyogénique." (*Traité d'anatomie pathologique*, folio, Paris, 1829.) He believed that the function of this tissue was really to generate or secrete pus, thus agreeing with Mr. Hunter, who, as has been shown, was the first to call attention to this tissue, and to suggest the idea that mucus or pus was its true secretion. But the writer has previously shown, however, that in abscesses this same kind of tissue, which lines and completely encircles them, is organized subsequently to the generation or the secretion of the pus; consequently it could not have had anything whatever to do with the process of pus generation. Indeed, it would be much more plausible to suppose that this tissue was designed as a wall or barrier thrown around the abscess, to confine it and its contents within bounds, and thus to prevent their spreading into the loose cellular tissue of the anal region, than to believe that its function was merely to develop or secrete pus. It, however, is not more of a pus-secreting tissue than are the mucous membranes themselves, which is certainly not their function; yet, under inflammation, an ichorous fluid from their capillaries is frequently thrown out, which in reality, sooner or later, becomes muco-purulent or actual pus, without the least appearance of a solution of continuity; consequently, can both the accidental and the mucous tissues be considered truly pyogenic?



It is also said by some authors that this accidental tissue is not only a pus-secreting, but an absorbing agent also; yet it would seem that the instances must be few indeed in which pus would find its way into the circulation from abscesses and fistulæ through the medium alone of this tissue.

But, after all that has been said and observed of this tissue, it must be admitted that there is much yet to be learned of a definite and positive character in relation to it; and it is only by means of new and further researches that the true nature, functions, and characteristics of it can be precisely determined.

*The Importance of Early Treatment.*—The writer, at the commencement of this discussion, did not contemplate saying anything upon the treatment of fistulæ, but confine himself strictly to the text; but, upon reflection, he thought it best on this occasion to make a few brief remarks upon the treatment of simple or superficial anal fistulæ, reserving for a future article the treatment in full of anal and rectal fistulæ.

It is not only important to prevent an anal abscess from becoming fistulous, but it is equally important, after fistulous passages have formed, to treat them radically at once, before their parietes and their internal lining tissue become perfectly organized by time, and thus become involved in serious pathological changes. It is here that conservative surgery may especially be of essential service in the early treatment of simple and superficial cases of anal and rectal fistulæ, inasmuch as most all such cases at an early period may be successfully treated without division or excision of the morbid parts. In early childhood it is remarkable with what rapidity fistulous tracts or sinuses coalesce and get well by the mildest treatment. The writer has successfully treated ten young children of anal fistula during a practice of fifty-seven years; in all such cases the knife is especially contraindicated, in consequence of the frequent fluid fecal passages of early childhood.

The late and able surgeon, Dr. Gibson, says that "an opinion generally prevails that every fistula in ano requires an operation. There can not be a greater mistake. So far from it, almost every sinus, I am inclined to think, in a patient tolerably healthy otherwise, might be healed if attended to in the commencement and judiciously managed. Nothing will contribute more to this end than absolute rest, simple dressings, moderate diet, and mild laxatives. I have known a fistula, protracted and kept open for months while the patient walked about, healed in a week by perfect quietude and the horizontal position." (*Institutes and Practice of Surgery*, vol. ii, p. 152, imp. 8vo, Philadelphia, 1850.)

M. Preschet says: "By a judicious use of proper measures, we may almost always spare the fistulous patient an operation, which, although generally exempt from serious danger, is nevertheless productive of more or less severe suffering, and often gives rise to very unpleasant consequences." (*Op. cit.*)

The writer would here remark, however, that it must be distinctly understood that in all complicated cases of anal and rectal fistulæ, in which a large amount of the soft parts in the anal region, including sometimes the whole of one or both buttocks, is involved, attended with deeply burrowing sinuses and more or less external openings, no confidence whatever can be placed in any other treatment than in that which contemplates the complete division of all the morbid passages, both external and internal, by either the ligature or the knife. When a deep fistulous tract is divided by the knife, to aid in insuring success it is essential that the accidental tissue should be removed either by curetting or by excision, and the wound closed by suture. By the use of the ligature, however, this proceeding is entirely obviated, as it completely destroys the adventitious tissue and the callosity by the adhesive inflammation which it induces and keeps up, as it gradually divides the walls of the morbid tract, not by cutting, but by a process of ulceration and suppuration. But it should be remembered that, in the treatment of either the simple or the complicated form of fistulæ, much indeed depends upon the skill, the judgment, the experience, and the prudence of the surgeon to direct the application of the various and numerous remedial measures according to the exigencies of each individual case.

*Indications in the Treatment of Simple Fistulæ.*—The chief indication in the treatment of simple fistulæ in patients otherwise healthy is to destroy the accidental tissue which lines their internal surface, which, when accomplished, modifies the condition of their parietes, and, together with dilating or enlarging the orifices of the passages, and complete drainage, decidedly favors granulation, cicatrization, obliteration, and cure. The chief indication may be effected by means of various escharotics, some in the form of fluids, as injections, and others in the potential form, as applications. Some of the fluids which have been used successfully in some of such cases by the writer, as well as by others, are the tincture of iodine, or, what is preferable, a solution of iodine in ether, being more volatile, escapes more rapidly, leaving the parietes of the fistulous tract in contact with the pure iodine; a strong solution of the nitrate of silver, and also the following preparations:

R̄ Acidi carbolic.	gr. xxx;
Glycerini	℥ ij;
Aq. destillatæ.	℥ iv.
M. Fiat solutio.	
R̄ Hydrarg. chloridi mitis.	gr. xxx;
Hydrarg. chloridi corrosivi.	gr. j;
Mel. despumati.	℥ j;
Aq. destillatæ.	℥ ij.
M. Fiat mistura.	

To suit some delicate cases these injections may be slightly diluted, and the pain, if any, resulting from their use, may generally be mitigated by the application of hot fomentations or poultices. A few injections at intervals of a day or two may be all that will be required.

A number of other escharotic solutions suitable for injections in such simple cases could here be given, for such abound and are known, and will suggest themselves to practitioners generally.

With regard to the application of some of the escharotics in the potential form, the writer has treated successfully quite a number of cases of simple and superficial anal and rectal fistulæ, in which there existed one or more straight or slightly curved fistulous tracts, by means of probes of silver or copper of different sizes and coated with caustic. The silver probe may be coated with the nitrate of silver by dipping it several times in the fused salt and introduced into the whole length of the fistulous passage; or the copper probe may be coated with the nitrate of copper by dipping it in nitric acid, and inserted like the former. A choice can thus be made between the nitrate of silver and the nitrate of copper. The writer has had the most success with the latter. The former was the suggestion of Sir Benjamin Brodie, and the latter was that of Mr. Evans, of London. When a silver and a copper probe are dipped in nitric acid and introduced together into a fistulous passage, the caustic effect is greatly increased, and if suffered to remain in too long would destroy the tissues with which they were in contact. This is the effect of the galvanic action set up by the contact of the copper and the silver probes with the acid acting upon them.

The writer is well aware, however, that even all such conservative measures as have just been considered for the treatment of the simple or superficial form of anal and rectal fistulæ are, except the knife, denounced in unmeasured terms by a few newly fledged rectal specialists of the school of "official" surgery as unsurgical, unscientific, and unworthy of their profound attention. These upstart and would-be authorities attempt thus to degrade and depreciate the persons, the experience, and the treatment, in this respect, of numerous eminent men in the profession, whose genius is as brilliant as the face of these their detractors is brazen.

*The Spontaneous or Natural Cure of Fistulæ.*—The natural or spontaneous cures of anal and rectal fistulæ are not of frequent occurrence, yet occasionally isolated cases do present themselves in which a fistulous passage or passages will close and become obliterated without any medical or surgical interference; this event often occurs even when the general health of the patient is seriously affected otherwise. Cases of this kind have long since been reported by such eminent men as Pott, Ribes, Velpeau, and Allingham, which emphatically demonstrate the fact that Nature sometimes spontaneously effects cures of fistulous canals. This subject has, perhaps, not been sufficiently reflected upon by surgeons generally, for numerous circumstances point to the fact that Nature herself attempts to cure fistulæ, and they who ignore Nature's efforts in this respect lose some valuable points in their indications of the cure of fistulæ by any method. In confirmation of this very fact, the

great English surgeon, Mr. Pott—who, like Celsus, has given us so much valuable information upon the subject of fistula in ano, and who in his day effected so complete a revolution in the then barbarous methods of operating in this disease—says, when speaking of the tendency of fistulous passages to spontaneous cure: "They may not always become perfectly closed and heal, but the aim and conduct of Nature are not, therefore, the less evident, or the hint which art ought to borrow from her the less palpable." (*Op. cit.*, p. 218.)

The following is, perhaps, the *modus operandi*, then, in which a spontaneous or natural cure of fistulous canals may take place: The composition of such canals is contractile, like all other tissues of the body, and their lining membrane, being accidental and not mucous, is consequently not liable of itself to prevent the union of the parietes of these passages; therefore, just as soon as they, from some new action in them, begin gradually to cease giving exit to their accustomed discharge, or that which caused them, their cavities in the same ratio begin consequently to contract and become capillary, union and adhesion of their parietes take place, and finally they are changed into a dense fibro-cellular mass resembling a cord, which may sooner or later altogether disappear.

A case of this very kind came under the observation of the writer at New Orleans in March, 1847.

Mr. P., of Columbia, South Carolina, on a visit to New Orleans, brought with him his body-servant, George, a rather delicate mulatto about twenty-five years of age, who soon after his arrival contracted a severe cold, which rapidly terminated in pleuro-pneumonia and death. Two years previously this man had a complete fistula in ano, which in less than a year closed and healed without any medical or surgical treatment whatever. An autopsy was permitted the writer, who could distinctly feel the cordlike cicatrix, the remains of the fistulous tract, which he completely removed. It measured three inches and a half in length, and its parietes were firmly united and had precisely the appearance and the feel of a cord.

Since then the writer has observed five similar cases. Mr. Allingham has reported twelve cases of spontaneous cures of anal and rectal fistulæ. (*Fistula, Hemorrhoids, etc.*, p. 16, 8vo, London, 1871.)

The writer received the following highly interesting letter from John E. Weaver, M. D., of Rochester, N. Y., dated March 9, 1891, which will explain itself:

"Dr. W. Bodenhamer:

"DEAR SIR: I have just been reading in the *Medical Record* of February 28, 1891, your remarks upon the spontaneous cure of fistulæ. As your record of cases seems small, I thought you might wish to add to it my own case.

"While practising my profession in Roxbury (Boston), Massachusetts, in the winters of 1877 and 1889, I took several severe colds, had pleurisy, a severe cough, with purulent expectoration, torpid liver, constipation, night sweats, loss of appetite and flesh, followed by an anal fistula which was very painful and discharged

freely for several months. All the local treatment it had was free bathing. General tonics and fresh-air exercise did the rest. The fistula closed, I believe, in about a year, and has remained closed since, etc."

The writer will now conclude by repeating that a knowledge of the phenomena relative to the spontaneous cure of fistulæ is of considerable importance to the successful treatment of their various kinds by whatever method employed, and should be an object of interest and consideration in the indications of their treatment and cure.

Now, should any one accuse the writer of too much detail in this article, he must plead the importance of the subject, and the neglect with which it has been treated by most authors. He has introduced nothing which did not appear necessary to display the existing state of our knowledge of these facts, and nothing that will not tend to elucidate the pathological remarks contained in the article.

## ATLANTIC CITY IN THE AUTUMN.

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It was in 1859 that the late distinguished Dr. Samuel Jackson, of Philadelphia, then professor of the theory and practice of medicine in the University of Pennsylvania, made the statement that he considered the atmospheric condition of Atlantic City one of the most peculiar in the country, and he ventured the prediction that it would in time become available in the treatment of many diseases.

In 1873 the late Dr. William V. Keating, of Philadelphia, after visiting and studying all the famous health resorts of Europe, wrote: "What a precious boon will it be to the invalids of our country if, without the necessity of exposing themselves to a long sea voyage, they can find in their own native land all the variations of climate and hygienic conditions conducive to their restoration to health, or to the amelioration of their sufferings!"

These predictions and anticipations have been realized to an extent scarcely thought possible by their authors, until, in 1896, the pre-eminence of Atlantic City as a health preserver and health restorer is everywhere recognized and conceded. Many theories and speculations have been from time to time advanced to account for the truly marvelous effects of this place, but, to my way of thinking, after a residence of some years, the results produced are due to a combination of natural and artificial conditions not to be found in any other spot on earth. Nature has done much, and what she has left undone art has completed; for even the most beneficent efforts of Nature will be to an extent nulli-

fied if not supplemented, perfected, and maintained by the co-operation of art.

Let us for a moment consider the geographical situation of Atlantic City: Situated on a strip of sand some eight miles long and possibly three quarters of a mile wide, the Atlantic Ocean in front and five miles of meadow land in the rear, it reminds one of a ship at sea, this fancy being intensified by the fact that many times during the course of the year the meadow land in the rear is covered by salt water to a depth of four feet or more, at which times Atlantic City is practically an island "five miles out at sea."

Thus Nature has surrounded this city with an "ocean atmosphere," so to speak, very unfavorable to the growth of pathogenic bacteria, as is demonstrated by the almost complete absence of zymotic diseases among the inhabitants. During a practice of five years in Atlantic City I have seen only one case of scarlet fever, four cases of typhoid fever, a very few cases of measles, no diphtheria, and no malarial disease, and the records of the health office demonstrate that the experience of other physicians is on a par with mine.

This remarkable exemption of the atmosphere from pathogenic bacteria makes Atlantic City a most favorable locality for operative procedures, wounds healing with unusual rapidity and freedom from suppuration, so that surgeons are not only commencing to bring their patients here to prepare them for operation, but are actually performing the operations here, in an atmosphere that is naturally aseptic. Here, then, we have the first requisite of health, an atmosphere free from the causes of disease.

It is a fact demonstrated by a large number of cases in my own experience that sufferers from hay fever enjoy more freedom from this distressing complaint here than at any other place, so that year by year the colony of sufferers from this affection is rapidly increasing. Contradictory as it may at first seem to say that the seashore is suited to rheumatic patients, yet experience convinces me that they do well here, particularly in the fall of the year. This fact is probably attributable to the abundance of sunshine and the singular absence of foggy weather that characterize Atlantic City during the fall, for from the official records of the weather bureau I learn that during the months of October, November, and December for the five years 1890-'94 (inclusive), while there were sixty-three foggy days in New York city, Atlantic City had only five; with one hundred and fifty-one cloudless days here as against only a hundred and sixteen in New York.

The very great importance of sunshine as a therapeutic agent can not be overestimated, and, to my way of thinking, its plenitude here is one of the most effective remedial agencies of the locality. It really seems as though the sun shone here with an almost unequalled warmth, generosity, and brilliancy; and when it disappears in the west at the close of day, it leaves



behind an influence that tempers and moderates the evening atmosphere, so that we do not have here the evening chilliness and dampness so marked and so detrimental at the health resorts along the Mediterranean.

The atmosphere of Atlantic City might be characterized as a "stimulant sedative," if I may be allowed the Hibernianism and a few words of explanation. The visitor seems perfectly content to eat, walk, and sleep. The appetite improves at once; the digestive and assimilative vigor grows apace with the appetite; the glorious board walk along the ocean front invites walking, which is indulged in by all, and every one is always ready for sleep.

As might be supposed, such an atmospheric combination works wonders in functional nervous disorders, offering, as it does, a stimulant to the physical and a sedative to the nervous system.

Voluntary laziness—mental quietude and inaction, without chafing and fretting thereat, so desirable in nervous disorders, and so difficult to secure—is the natural result of the influence of this atmosphere.

Without going into tiresome statistics it is sufficient to say that official records prove that Atlantic City is several degrees warmer in winter and cooler in summer than either New York or Philadelphia, which is accounted for by the fact that the prevailing winds are from the southwest, while those of both New York and Philadelphia are from the northwest. Snow rarely falls here, and when it does it is gone and the streets are dry in a few hours, owing to the potency of the sun and the porous, sandy soil. A great feature of this atmosphere, one that has been more commented upon than any other, is its remarkable dryness, concerning which Dr. William V. Keating wrote: "This remarkable dryness of climate is the characteristic of Atlantic City, which affords relief and cure to all cases of rheumatic fever and arthritis, even in the most acute stages. I know of many instances in which invalids, after having recourse, without benefit, to the various mineral waters and baths in the country, have there been entirely cured."

"To another class of cases also I am convinced," writes Dr. Keating, "that Atlantic City offers relief, if not positive cure, which can not be obtained on any other portion of our seacoast. I allude to those trying and refractory cases of chronic bronchitis, laryngitis, incipient tuberculosis, and scrofula. It is difficult to estimate the immense advantages resulting to invalids suffering from pulmonary and scrofulous affections, being able to obtain all the benefits accruing from the invigoration and improved digestion of a seaside residence, without the usual pernicious accompaniment of excessive dampness, which relaxes the system and predisposes to a general catarrhal condition."

This testimony of Dr. Keating has been corroborated by many eminent medical men, among whom I might name Dr. Lawrence Turnbull, Dr. Thomas J. Yarrow,

Dr. Thomas G. Morton, Dr. James Darrach, Dr. John H. Packard, Dr. D. Murray Cheston, Dr. Ellwood Wilson, Dr. R. J. Levis, Dr. James J. Levick, and Professor J. M. Da Costa, M.D. Dr. Ellwood Wilson wrote: "During the *winter months* I regard it as a very favorable locality for consumptive patients."

Dr. William Pepper, of Philadelphia, is particularly emphatic in expressing his belief that the climate of Atlantic City acts powerfully, in most cases, as a dry and bracing climate. In incipient phthisis, and even when the disease had advanced to the second stage, he has noted great and permanent benefit. My own convictions, as the result of experience, observation, and interchange of thought, are that when we speak of the "dry, bracing, invigorating, aseptic atmosphere" of Atlantic City, we have the whole question in a nutshell. The testimony of all physicians who have written upon the subject is that it works marvelous results in all diseased or disordered conditions characterized by exhaustion, lowered vitality, lack of tone; hence, that a sojourn here is particularly indicated in all such conditions, in protracted convalescence from acute diseases, and as a preparation for all serious operations.

It is evident from what has been already said that Nature has done much for this place. What she has not done, man has. Mental diversion is a recognized therapeutic agency of immense potency, and Atlantic City offers mental diversion to minds of any and every type. It is a miniature metropolis, lacking no luxury or convenience, wherein a man may be saintly or diabolical, as the spirit moves him.

It is a health resort devoid of all the usual mournful and depressing accompaniments of such places; it is truly a "city of health and pleasure." So long as one behaves himself with decency, he can do about what he pleases; he has churches and saloons and theatres and boats, and amusements of all kinds; he has a magnificent board walk, forty feet wide and four miles long; and last, but by no means least, he has hotels equal in comfort and elegance to any in the world.

Atlantic City is the best-known health resort in the United States, and is full of visitors from all parts of the country for nine months of the year. But, for some unaccountable reason, it is not sought, as it should be, during the most desirable season of the year—during the autumn and very early winter. Words can not paint the glory of this climate in October, November, and December, and it is to remind physicians of this garden-spot, so close to home, so accessible and so inviting, that this article has been written.

A very convincing proof of the peculiar merits of Atlantic City as a health resort is to be found in its almost magical growth during the last twenty-five years. In 1871 the resident population was 1,160, in 1896 it is 21,000—an increase of twenty fold. This growth is neither accidental nor spasmodic; we have no commercial industries save those dependent upon our visiting

population; this steady growth of resident population is but an index of the steady growth of the reputation of Atlantic City as a health resort; the physicians of the country have made this place what it is because they have been ready to recognize and commend its merits, but they are not yet fully alive to the superior attractions of the place in the autumn.

We have a rapidly growing leisure class in this country, whose wealth relieves them from the necessity of close application to business, yet whose interests call for personal supervision; for such, Atlantic City offers an ideal fall and winter home, possessing all the advantages of European health resorts, yet within three hours of New York city.

No. 1625 PACIFIC AVENUE.

## PRELIMINARY NOTE ON BLENNOSTASINE.

By WALTER F. CHAPPELL, M.D.,

SURGEON TO THE MANHATTAN EYE, EAR, AND THROAT HOSPITAL.

BLENNOSTASINE, although somewhat analogous to quinine, is without many of its unpleasant qualities. The drying or blennostatic effect of this remedy has suggested the name, which is more convenient than the chemical designation.

The compound is a derivative of one of the cinchona-bark alkaloids and is a solid substance which crystallizes from dilute solutions in large, prismatic crystals, or from concentrated solutions in the form of small, needle-shaped crystals, very soluble in water and quite as bitter as quinine.

Blennostasine may be administered in capsule form, when combinations are required; but for many reasons one-grain gelatin-coated pills are preferable. The dose ranges from one to four grains or more every hour, according to the effect desired. It has a marked contractile effect on the vasomotor system of the upper respiratory tract, and, being non-toxic, is especially valuable as a substitute for belladonna, atropine, and similar drugs in hay fever, acute influenza, and rhinitis; also in intermittent rhinorrhœa, laryngorrhœa, and bronchorrhœa. It has a powerful sedative influence on the brain and spinal cord, and markedly diminishes reflex movements.

During the past two years the writer has employed many of the alkaloidal salts from cinchona in hay fever with only partial success, but during the past season blennostasine has replaced these and other internal remedies with gratifying results—in fact, all hay-fever patients who have taken the remedy have been promptly relieved, and, though a recurrence of the symptoms next year may not be prevented, the usual attack may be aborted if the treatment is begun sufficiently early.

Quinine is very popular with the laity for colds in the head and influenza, but it only modifies the symptoms and is rarely curative. The salt blennostasine has medi-

cinal properties superior to those of quinine for arresting supersecretion, and if given frequently and in sufficient quantities will almost invariably arrest the sneezing and the mucous discharges of ordinary influenzal colds.

Hyperæsthetic conditions of the nasal mucous membranes are very favorably influenced by it, and one case of spasm of the glottis, which had become very alarming, owing to the quantities of mucus which collected at night, was completely controlled by this drug.

7 EAST FIFTY-FIFTH STREET, November 6, 1896.

## A SHORT REVIEW OF MECHANO-THERAPY IN CONNECTION WITH OBSTETRICS.

By AXEL V. GRAFSTROM, B. Sc., M. D.

By mechano-therapy we understand the mode of treating diseases by movements. It is a science both in theory and in practice. Founded on purely scientific researches, discoveries, and facts, its path runs parallel and in close contact with physiology, anatomy, and pathology.

We should carefully distinguish between mechano-therapy and educational gymnastics or physical education. The former is a purely remedial agent. It aids Nature in her battle against disease. The latter assists Nature in the development of a fine physique. Its mission is to create a healthy body as a dwelling for a healthy soul, rather than to restore to health a body diseased.

The movements may be either active or passive. If the movement is executed by the patient's own will and power it is called active. A passive movement is performed either with or on some part of the patient's body by a will and power other than the patient's.

The principal postures in which we place the patient when performing a movement are the standing, sitting, and lying postures. These positions may again be subdivided into more complicated ones.

By medical gymnastics we understand that branch of mechano-therapy which deals with active and passive movements of different joints of the body. These movements can be: flexion, extension, abduction, adduction, rotation, and circumduction. Massage is a series of passive movements executed on the patient's body in a variety of ways, and constitutes the other variety of mechano-therapy. These passive movements are: friction, kneading, percussion, stretching, pressure, vibration, and stroking.

Although a science in itself, we must always bear in mind that mechano-therapy is only a remedial agent to be used by the physician, surgeon, or specialist as a part of the general treatment of a disease. Any member of the medical profession who has had a large experience in either private or public practice will certainly recognize the importance of mechano-therapy in connection with obstetrics. In order to simplify the matter

we will review medical gymnastics and massage during the three different periods: pregnancy, labor, and the puerperal state.

**I. PREGNANCY.**—In women of sedentary and indolent habits, and who at the same time are high livers, general massage with medical gymnastics will prove beneficial as an aid to the overworked digestive organs, as a stimulant to the congested liver, and as a substitute for exercise. The treatment should be given in bed either daily, or four or five times weekly.

**II. Degeneration, neurasthenia, and muscular relaxation** are generally to be found both in women who are reared among the luxuries of civilization and move in "society," and in members of the "*demimonde*." Late hours, all kinds of excitement and dissipation have made them quite "*blasées*." A tardy and painful labor must be expected among this class. Mechano-therapy, given during pregnancy, will to some extent counteract the anomalies of the expellent forces in such cases, and should be so directed as to strengthen the abdominal muscles and to make the ligaments of the pelvis more elastic; also so as to be a sedative for the nervous system. The treatment should be given in bed, and for three quarters of an hour daily.

**III. Occasionally** we meet women with an excellent physique, who, during pregnancy and without suffering from any disease, lose flesh and strength. Such a woman grows emaciated and anæmic, and after a difficult and abnormal labor gives birth to a very large child. Her pelvis may be entirely normal. In such cases, and having the experience of a previous labor to govern us, a course of mechano-therapy will often improve the situation. The object of the treatment should be to increase the action of the organs of nutrition and to carry the increased nutrition toward the mother's muscular system; that is, from within outward. By this the development of the fetus will be retarded and after a normal and comparatively easy labor a normal-sized child will be born.

**IV. In nausea and vomiting of pregnancy** a course of massage and medical gymnastics will often be beneficial.

**V. The digital stretching or dilatation of the os externum and cervix** in cases of hyperemesis during pregnancy is only an act of massage.

The question will now arise, How close up to labor do we dare to extend the treatment of mechano-therapy? The answer must be: The attending physician should be the judge in each case. Cases have been reported where the treatment was carried out daily up to the first stage of labor.

**LABOR.**—*First Stage.*—In this stage labor becomes pathological when the pains are defective on account of their short duration. When everything else is normal and labor far advanced, the object of the treatment should be to make the pains longer and more expulsive in character; it is to produce effective uterine

contractions. Massage, properly executed, will often be of great service. It should be performed in the following order: friction of the fundus, vibration of the fundus, palmar stroking of the lateral sides of the uterus from above downward, all through the abdominal wall.

*Second Stage.*—When the rotation of the head is completed and the pains are weak and irregular, and the only resistance to be overcome is that of the soft parts, the time for the forcible expulsion is at hand. This performance is only a variety of massage.

*Third Stage.*—Undoubtedly, the dangers of this stage are best overcome by massage. It should be performed in the following way: friction of the fundus, kneading of the fundus, and during the acme of a contraction palmar pressure of the uterus from above downward, together with some slight vibration. These procedures should be carefully executed through the abdominal coverings until the placenta is expressed, which is usually effected during the third or fourth pain.

After delivery of the placenta massage is again indicated. Now it consists of gentle friction, kneading, and pressure of fundus until contraction and retraction of the uterus are accomplished. These manipulations are to be repeated when the uterus shows a tendency to relax.

**I. THE PUERPERAL STATE.**—In cases of *phlegmasia alba dolens* mechano-therapy is exceedingly useful. The treatment should commence when the tenderness subsides and the leg begins to pit on pressure. The different manipulations should be: friction, kneading, palmar percussion, vibration, and stroking, together with passive and active movements.

**II. CAKED BREAST AND MASTITIS.**—Caked breasts are promptly relieved by massage. Parenchymatous inflammation following a caked breast can also be successfully treated in this manner. Even in cases of mastitis, where pus already has been formed, it can be evacuated by skillful massage. The different manœuvres should be done in the following order: friction, digital kneading, palmar pressure and vibration, digital stroking. These manipulations should be directed from the base of the breast to the nipple. Massage is contraindicated when there is a gradual rise of temperature, dull pain in the breast, redness and œdema of the skin, enlargement and tenderness of the axillary glands—in short, all symptoms of interstitial mastitis.

**III. SUBINVOLUTION.**—Mechano-therapy plays a prominent rôle in the treatment of this abnormal condition of the uterus. It may be caused by chronic pulmonary, cardiac, or hepatic diseases, by chronic constipation, by rising too soon after parturition, by displacements of the uterus, by retained secundines, by a lacerated cervix or perinæum, or by any uterine or pelvic inflammatory process. The accepted rule is: first, to treat the cause, if possible, and then to employ mechano-therapy in order to relieve the congestion.



IV. The excessive enlargement of the breasts and great relaxation of the abdominal muscles so often noticed after labor may be treated with advantage by massage and medical gymnastics.

V. During this period mechano-therapy has often been successfully employed to correct displacements of the uterus.

VI. A symptomatic, if not an anatomical, cure will be effected by this treatment in cases of movable kidneys which during labor have become further displaced and produce distressing symptoms.

Medical gymnastics and general massage can without danger begin two weeks after labor. Pelvic or direct uterine massage should not be given before the seventh week.

#### Literature.

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Ervin A. Tucker. Management of the Breasts and Nipples before and during the Puerperal Period. *New York Medical Record*, May 26, 1894.

George M. Edebohls. Movable Kidney. Read before the Section on Obstetrics and Gynecology, New York Academy of Medicine, October 27, 1892.

Benjamin Lee. Hare's *Therapeutics* (Massage and Swedish Movements).

CITY HOSPITAL, BLACKWELL'S ISLAND.

### ANOTHER INTERESTING CASE OF GONORRHOEA IN THE YOUNG.

By J. DOUGLAS WESTERVELT, JR., M. D.,

ALICE, TEXAS.

SURGEON TO THE SAN ANTONIO AND ARANSAS PASS  
AND TEXAS-MEXICAN RAILWAYS;

MEMBER OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES,  
ETC.

I HAVE read with interest the articles by Dr. Cox, of Galveston, and Dr. Lofton, of Atlanta, on gonorrhoea, associated with epididymitis, in children, but I can report a case I think more interesting and decidedly more unusual than any of those mentioned—that of a child five years of age and of Mexican parentage. While preparing to amputate his leg (on account of a railroad accident) on the 23d of September last, I found, to my amazement, that he was the diminutive sufferer from well-defined gonorrhoeal epididymitis, accompanied with chancroid and bubo of the left groin.

I could find no cause to which this case could be attributable, save that of the child's being tampered with by questionable characters of his own nationality. This disease is undoubtedly more prevalent among Mexicans of the lower class than in any other race of people with whom I have had any experience.

### Therapeutical Notes.

**Eucalyptus as an Antidote to Strychnine.**—It appears by an abstract from an Italian journal (*British Medical Journal*, August 29, 1896; *Edinburgh Medical Journal*, November, 1896) that Muscecchi has found experimentally that a decoction of eucalyptus mitigates the poisonous action of strychnine very decidedly. He therefore recommends its use for washing out the stomach in cases of strychnine poisoning.

**Hæmol Hydrargyroidide in the Treatment of Advanced Syphilis.**—Kobert (*Centralblatt für Nervenheilkunde und Psychiatrie*, May, 1896; *Fortschritte der Medizin*, November 1, 1896) recommends this preparation, said to contain thirteen per cent. of mercury and twenty-eight per cent. of iodine, in combination with blood pigment, especially in cases of advanced syphilis in which the internal administration of mercury is indicated. The particular advantages of the compound are said to be that it is perfectly unirritating to the mucous membranes, that it passes through the stomach without being dissolved, and that, together with the specific effect of iodine and mercury, it exerts a mild chalybeate action. The formula is as follows:

℞ Hæmol hydrargyroidide..... 150 grains;  
Opium..... 15 “  
Glycerin ointment..... a sufficiency.

Mix and divide into a hundred pills, of which there may be given at first one, gradually increased to four, three times a day.

**A Wash for Incipient Baldness.**—The *Therapeutische Wochenschrift* for November 8th gives the following formula:

℞ Salicylic acid..... 1 part;  
Alcohol, )  
Glycerin, ) each..... 20 parts;  
Tincture of soap, )  
Peruvian balsam..... 6 “  
Cologne water..... 14 “

M. Digest for fourteen days, and filter. The scalp is to be rubbed with the wash daily.

**The Treatment of Acute Coryza.**—Dr. Georg Rosenfeld, of Breslau (*Allgemeine medicinische Central-Zeitung*, 1896, No. 88; *Therapeutische Wochenschrift*, November 8, 1896), uses a four-per-cent. solution of nitrate of silver with which he swabs the nose thoroughly three times within an hour. After from three to twenty hours he repeats the application. This procedure is said to be rather painful, but extraordinarily efficacious.

**Lactophenine in the Treatment of Influenza.**—Garzia (*Gazzetta degli ospedali e delle cliniche*, 1895, No. 76; *Centralblatt für innere Medizin*, November 7, 1896) gives from seven to fifteen grains of lactophenine three or four times a day in influenza and its complications. He says it moderates both the fever and the nervous phenomena and shortens the course of the disease. He regards it as far more efficacious than quinine and salicylic acid.

**The Cleveland Medical Gazette.**—It is announced in the November number of the *Gazette* that it has passed into the hands of a corporation, to be known as the Medical Gazette Publishing Company, which has a capital stock of \$10,000. Dr. Samuel W. Kelley will still continue editor of the *Gazette*, with Dr. Frederick K. Smith as business manager. The future prosperity of the *Gazette*, judging from its past history, seems to be assured.

THE  
NEW YORK MEDICAL JOURNAL.  
*A Weekly Review of Medicine.*

Published by  
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MEDICAL MEN AS CONTRIBUTORS TO GENERAL  
LITERATURE.

WE have often expressed the wish that members of the medical profession would not so generally confine their writing to matters pertaining to medicine, and we have of late been gratified to see signs of a change in this respect. In particular, two publications have recently appeared that are worthy of special mention. One of them is by Dr. Lydston, of Chicago, the advance sheets of which we briefly alluded to several weeks ago.\* The book is an octavo of over six hundred pages, freely and very handsomely illustrated with half-tone and other pictures. The contents are for the most part prose sketches, but here and there there are a few verses also. Dr. Lydston's delineations in words show, it seems to us, that he is possessed of great descriptive powers. We have not space to mention all the notable articles in the volume, but will simply say that we have been most interested in *The Passing of Major Merriwether*. The major's last letter, read after his death, seems specially clever.

As we said in our notice of the advance sheets, we think Dr. Lydston has succeeded with the illustrative designs even better than with the text. Noteworthy among them is one entitled "*When Pharisee meets Pharisee, then comes—Death,*" facing the page on which the article entitled *Several Kinds of Doctors* begins. The tone of Dr. Lydston's book is wholesome where there must have been some temptation to indulge in mysticism, and for that as well as for his cleverness he is to be commended. We hope to see more work of the sort from him—perhaps a continuous story.

The other book to which we would call attention is a dainty little volume of verses by Dr. Gould, of Philadelphia.† The sentiments expressed—and the verses are for the most part sentimental—are most creditable to the author. Of the various poems, those that have pleased us most are *The Ocean* and *Inter Arma Leges Silent*. There is an abundance of humor as well as

sentiment in Dr. Gould's verses, and we have found nothing morbid in them. If some harshness of versification is occasionally met with, it does not destroy or seriously impair the beauty of Dr. Gould's writing. He, too, we hope, will make us better acquainted with his Muse.

THE SERUM TREATMENT OF SYPHILIS AND  
CARCINOMA.

THE *Deutsche Medizinische-Zeitung* for November 12th contains abstracts of two articles one of which, by Professor Tarnowsky, of St. Petersburg, deals with the serum treatment of syphilis alone. It appeared in the *Archiv für Dermatologie und Syphilis*. Reflecting upon the absence of positive results from employing the normal serum of animals, that of animals inoculated with syphilitic products, or that of persons affected with constitutional syphilis, Tarnowsky thought it most rational to use serum obtained by a process as nearly as possible the same as the one employed in the preparation of antidiphtheritic serum, but the practical difficulty presented itself of finding an animal susceptible to syphilis. However, he thinks he has found such an animal in the foal. Although, on inoculation, the foal does not show any outward signs of syphilis, changes extraordinarily like those due to that disease are found in different internal organs and in the blood-vessels and the lymphatic glands in the course of two or three months. Accordingly, he has endeavored to syphilize two foals with moist syphilitic papules by implanting them in incisions into the skin, by applying them to a blistered surface, and by injecting an emulsion of them subcutaneously.

After these inoculations had been many times repeated, blood was drawn from the animals and the serum was administered subcutaneously to six patients, usually in doses of from ten to twenty cubic centimetres. In five of the patients the disease was quite recent and had not been treated before; the remaining one had tertiary manifestations. The therapeutic result was *nil*, even after long persistence in the treatment; the cases followed their course precisely as if no treatment had been practised. Moreover, the injections seemed to have a detrimental effect. Three of the patients lost flesh, their general health grew worse, and they had transitory albuminuria. In four cases an itching erythema appeared, with pains in the muscles and joints, also purpura in two instances. When large doses were used the temperature was decidedly raised.

The other article, by Dr. Ludwik Rekowski, appeared in the *Gazeta lekarska*. It relates to the serum treatment of both syphilis and carcinoma. This author

\* *Over the Hookah. The Tales of a Talkative Doctor.* By G. Frank Lydston, M.D. Illustrated from the Author's Designs by Mr. C. Everett Johnson. Chicago: The Fred. Klein Company, 1896.

† *An Autumn Singer.* By George M. Gould, A.M., M.D. Philadelphia: The J. B. Lippincott Company, 1897.

conceived the ingenious idea of subjecting the serum-yielding animal to a course of injections of antisyphilitic or anticarcinomatous drugs as the case might be—mercury salicylate to generate an antisyphilitic serum and sodium arsenite to render the serum effective against cancer. In the antisyphilitic serum thus produced traces of mercury could be detected by means of chemical tests. It was injected into patients with tertiary syphilis in doses of ten cubic centimetres every third day, and the results are represented as astonishing; as soon as after the third or fourth injection the gummatous lesions began to disappear and soon vanished completely.

Traces of arsenic were found in the anticarcinomatous serum. It was used on two patients with cancer of the face, ten cubic centimetres being injected subcutaneously twice a week for six weeks, and at the end of that time the author was satisfied that the patients' general condition had improved notably. What the ultimate results were is not stated. On the whole, it can hardly be said that these two communications are very encouraging; they both show, however, that no stone is to be left unturned to perfect the serum treatment of disease and to extend the field of its application.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 1, 1896 :

DISEASES.	Week ending Nov. 24.		Week ending Dec. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	34	6	28	9
Scarlet fever.....	135	8	113	9
Cerebro-spinal meningitis....	2	2	3	2
Measles.....	81	3	89	2
Diphtheria.....	218	18	261	30
Tuberculosis.....	188	98	122	81

**St. Christopher's Hospital for Babies.**—On December 1st there was opened at No. 283 Hicks Street, near Joralemon, Brooklyn, Saint Christopher's, a hospital for babies. It is expected that this hospital will be to Brooklyn what the Babies' Hospital is to New York. The announcement mentions the difficulty of getting hospital treatment for the very young, and says that this hospital proposes to accept just such patients. No child suffering with a contagious disease can be received, but all others, sick and destitute, will be taken to the full capacity of the hospital. The following-named gentlemen constitute the hospital staff: Consulting surgeons, Dr. A. J. C. Skene and Dr. William Maddren; consulting physician, Dr. Charles Jewett; consulting neurologist, Dr. William Browning; consulting laryngologist, Dr. William F. Dudley; consulting ophthalmologist, Dr. William H. Snyder; visiting pediatricists, Dr. William A. Northridge and Dr. John W. Parrish.

**The Semicentennial Meeting of the American Medical Association.**—The meeting is to be held in Philadelphia, on June 1, 2, 3, and 4, 1897. In view of the fact that it will occur in a great medical centre and near the other great

cities of the eastern coast, the committee of arrangements has already made provision for the accommodation and entertainment of the delegates, by the engagement of the Academy of Music, Horticultural Hall, the South Broad Street Theatre, and the large meeting rooms in the Hotel Walton and Hotel Stenton. As these large buildings are all within a short distance of the great railroad stations in the centre of the city, and are all situated within one block on both sides of Broad Street, every department of the meeting will be conveniently arranged. At the last meeting of the association it was voted to devote the first evening of the meeting, that of Tuesday, June 1st, to dinners of the various sections. The officers of the sections desiring to give such a dinner are asked to communicate with Dr. G. E. de Schweinitz, chairman of the subcommittee on accommodation, No. 1401 Locust Street, Philadelphia, as early as possible, in order that dining rooms may be engaged or other entertainment provided. As it is expected that fully three thousand physicians will be present, the committee suggests that application for accommodations be made as early as possible. It is hoped that every member of the association will make a special effort to attend. Further circulars of information will be issued by the committee from time to time. Individuals and firms desiring space for exhibition in the Exhibition Hall, which will be in the same block as the various meeting halls, will please apply promptly to the chairman of the subcommittee on exhibits, Dr. Edward Jackson, No. 1633 Locust Street, Philadelphia.

**The New York Academy of Medicine.**—At the regular meeting of Thursday evening, the 19th ult., an anniversary discourse entitled *The Evolution of the Surgery of the Twentieth Century* was delivered by Dr. George R. Fowler.

At the last regular meeting, on Thursday, the 3d inst., a paper on *The Management of Pneumonia* Patients was to be read by Dr. S. Baruch, and discussed by Dr. Charles B. Folsom, of Boston; and Dr. W. H. Draper, Dr. A. A. Smith, Dr. E. G. Janeway, Dr. W. P. Northrup, and Dr. Alfred Meyer.

At the last meeting of the Section in Orthopædic Surgery, on Friday evening, the 20th ult., a paper entitled *The Treatment of Lateral Curvature by Light Gymnastic Movements* was read by Dr. James K. Young, of Philadelphia, and discussed, as stated in last week's issue.

At a special meeting of the Section in Obstetrics, on Friday evening, the 27th ult., Dr. J. Clifton Edgar read a paper on *The Treatment of Eclampsia*, which was discussed by Dr. Davis and Dr. Hirsch, of Philadelphia; Dr. Reynolds and Dr. Green, of Boston; Dr. Jewett, of Brooklyn; and Dr. Grandin and Dr. Lusk, of New York.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 8th inst., Dr. William K. Otis will read a paper entitled *The Detection of Stone in the Bladder*, and Dr. Robert C. Kemp will exhibit a double-current rectal irrigator and a prostatic cooler. Cases will also be presented.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 10th inst., the following papers will be read: *Fatty Liver and Ileocolitis*, by Dr. R. G. Freeman; and *The Treatment of Diphtheria; an Inquiry into Modern Methods employed in Berlin in the Summer of 1896*, through the Courtesy of Professor Baginsky, by Dr. Louis Fischer. Dr. J. S. Ferguson will present an infant with pseudo-leucæmia.

**The Late Dr. Frank Whitman Ring.**—The following resolutions were adopted by the medical board of the Manhattan Eye and Ear Hospital on July 17, 1896:

*Whereas*, The hand of Death has removed from our midst our executive surgeon, Dr. Frank W. Ring,

*Resolved*, That in submitting to the will of Almighty God, we wish to express our personal sorrow at the loss of a most faithful and efficient colleague.

*Resolved*, That we extend to his widow and family our deepest sympathy in their bereavement.

*Resolved*, That the surgical staff of the hospital attend his funeral services in a body, and that a committee of four be appointed to accompany his remains to their final resting place.



*Resolved*, That the flag of the hospital be displayed at half-mast until after his interment.

*Resolved*, That a copy of these resolutions be forwarded to his widow.

The following resolutions were adopted by the board of directors, at their stated meeting, on November 17, 1896:

*Whereas*, We are called upon to record the death of our associate, Dr. Frank Whitman Ring, which occurred on July 17, 1896, and whereas Dr. Ring has, for the past twelve years, been actively connected with the Manhattan Eye and Ear Hospital, New York.

*Resolved*, That we heartily indorse the action taken by the medical board at the time of his death.

*Resolved*, That we hereby express our love and appreciation of Dr. Ring as a man, a surgeon, and a director of this hospital, and our own sorrow as well as the loss to the institution by his untimely death.

*Resolved*, That a copy of these resolutions, in conjunction with those passed by the medical board, be published in our *Annual Report*, the New York medical journals, and the *Maine Journal of Medicine and Science*, and that a copy of these resolutions be sent to his widow with the sympathy of this board.

DAVID WEBSTER, M. D.,  
[Signed.] J. B. EMERSON, M. D., } Committee.  
JOHN STEWART.

**The Buffalo Academy of Medicine.**—At the last meeting of the Section in Surgery, on Tuesday, December 1st, the order for the evening was as follows: A paper entitled *A Brief Review of the General Technics of Certain Cranio-cerebral Operations*, by C. B. Nancrede; and the presentation of cases by Dr. Roswell Park, Dr. E. A. Smith, Dr. W. C. Phelps, and Dr. E. J. Meyer.

**The New York Otological Society.**—Officers have lately been elected as follows: President, Dr. Gorham Bacon; vice-president, Dr. C. J. Kipp; secretary and treasurer, Dr. H. A. Alderton; members of the committee on admissions, Dr. Edward B. Dench, Dr. M. Toeplitz, and Dr. N. J. Hepburn.

**A Clinic for Defective Speech.**—The Polyclinic Hospital in Philadelphia has established a department for the cure of speech defects which do not require surgical or special medicinal treatment. The department will take patients that need training in vocalization and articulation.

**The Health of Dr. Howard A. Kelly, of Baltimore.**—We are happy to be able to state that Dr. Kelly has entirely recovered from the illness which compelled him to relinquish his practice for a time, and that he is now actively engaged in his professional work.

**The New York Hospital.**—Dr. Samuel W. Lambert has been appointed an attending physician to the hospital.

**Changes of Address.**—Dr. E. H. Cook, from New York to No. 179 Amity Street, Flushing, N. Y.; Dr. William G. Schaffner, from Beirut, Syria, to Lakewood, N. J.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 15 to November 21, 1896:*

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon, is ordered to Chicago to appear before the Examining Board for examination as to his fitness for promotion.

HALL, JOHN D., Major and Surgeon, is relieved from duty at Madison Barracks, New York, and ordered to Fort Wadsworth, New York, for duty, relieving COMEGYS, EDWARD T., Major and Surgeon. Major COMEGYS, on being thus relieved, is ordered to Fort Sill, Oklahoma Territory, for duty.

LAUDERDALE, JOHN V., Major and Surgeon, is retired from active service. November 13, 1896.

CLOUD, MARSHALL MORGAN, First Lieutenant and Assistant Surgeon, will report in person to the president of the Army Medical School, Washington, D. C., for the course of instruction.

SMITH, LOUIS PERCY, First Lieutenant and Assistant Surgeon, will report in person to the president of the Army Medical School, Washington, D. C., for the course of instruction.

SWIFT, EUGENE L., Captain and Assistant Surgeon. The leave of absence granted him on surgeon's certificate of disability is extended two months on account of sickness.

TESSON, LOUIS S., Major and Surgeon, is granted leave of absence for four months, to take effect about December 5, 1896.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 23, 1896:*

BRODERICK, R. G., Assistant Surgeon. Ordered to the U. S. Steamer Constellation.

CABELL, A. G., Surgeon. Detached from the U. S. Steamer Michigan, ordered home, and granted three months' leave of absence.

CORDEIRO, F. J. B., Passed Assistant Surgeon. Detached from the U. S. Steamer Constellation and ordered to the U. S. Steamer Michigan.

DIXON, W. S., Surgeon. Detached from special duty in Washington and ordered to the U. S. Steamer Brooklyn.

MORRIS, L., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, ordered to examination for promotion, at New York, and placed on waiting orders.

WALTON, T. C., Medical Director. Detached from the Naval Academy on January 18, 1897, instead of on December 15, 1896, and ordered to the Naval Laboratory, New York, January 19, 1897.

WELLS, H. M., Medical Director. Detached from the Naval Laboratory, New York, on January 19, 1897, instead of on December 19, 1896.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Fifteen Days ending November 15, 1896:*

BROOKS, S. D., Passed Assistant Surgeon. Directed to assume temporary command of Port Townsend, Washington, Quarantine during the absence of Passed Assistant Surgeon W. G. Stimpson. November 10, 1896.

MCINTOSH, W. F., Passed Assistant Surgeon. Granted leave of absence for five days. November 5, 1896.

YOUNG, G. B., Passed Assistant Surgeon. Leave of absence extended two days. November 9, 1896.

STIMPSON, W. G., Passed Assistant Surgeon. To proceed from Port Townsend, Washington, to Angel Island, California, Quarantine for temporary duty. November 10, 1896.

NYDEGGER, J. A., Passed Assistant Surgeon. Granted leave of absence for four days. November 9, 1896.

STEWART, W. J. S., Passed Assistant Surgeon. Granted leave of absence for three days. November 7, 1896.

#### Board Convened.

Board convened to meet in Washington, D. C., for the physical examination of an officer of the Revenue-Cutter Service. Surgeon FAIRFAX IRWIN, chairman; Surgeon C. E. Banks, and Passed Assistant Surgeon B. W. Brown, recorder.

#### Promotion.

CARMICHAEL, D. A., Passed Assistant Surgeon. Commissioned as Surgeon. November 14, 1896.

#### Society Meetings for the Coming Week:

MONDAY, December 7th: New York Academy of Sciences (Section in Biology); New York Medico-surgical Society; German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pitts-

burgh, Pennsylvania, Medical Society; Chicago Medical Society; Cleveland Medical Library Association (annual).

**TUESDAY, December 8th:** New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Oswego (semiannual—Oswego), Rensselaer, and Ulster (quarterly), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Morris, N. J., County Medical Society (semiannual); Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

**WEDNESDAY, December 9th:** Society of Alumni of the City (Charity) Hospital, New York; New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Montgomery (annual), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

**THURSDAY, December 10th:** Society of Medical Jurisprudence and State Medicine, New York; New York Laryngological Society (annual); Brooklyn Pathological Society; Medical Society of the County of Cayuga (semiannual), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

**FRIDAY, December 11th:** Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.; St. Louis Academy of Medical and Surgical Sciences; Cleveland Medical Society.

**SATURDAY, December 12th:** St. Louis Medical Society; Obstetrical Society of Boston (private).

## Births, Marriages, and Deaths.

### Married.

**HILL—BRUNSON.**—In Edgefield, South Carolina, on Tuesday, November 24th, Dr. John W. Hill and Miss Susie Brunson.

**LEONARD—BIXBY.**—In Buffalo, on Tuesday, November 24th, Dr. Allen Thomas Leonard, of North Tonawanda, N. Y., and Miss Inez Mason Bixby.

**OLCOTT—LOUGHRAN.**—In Brooklyn, on Saturday, November 28th, Dr. Charles A. Olcott and Mrs. Susan B. Loughran.

**SIMS—CALDWELL.**—In Maybinton, South Carolina, on Wednesday, November 25th, Dr. W. L. Sims and Miss Mattie Caldwell.

**THIGPEN—BISSELL.**—In Charleston, South Carolina, on Tuesday, November 17th, Dr. Charles Alston Thigpen, of Montgomery, Alabama, and Miss Daisie Lee Bissell.

### Died.

**BILLIU.**—In Shreveport, Louisiana, on Wednesday, November 25th, Dr. Morgan Billiu, son of Dr. David H. Billiu, in the twenty-eighth year of his age.

**CUTTER.**—In New York, on Tuesday, November 24th, Ellen Bigelow, wife of Dr. John Ashburton Cutter.

**ELIOT.**—In New Haven, on Monday, November 30th, Mary A. Forbes, wife of Dr. Gustavus Eliot.

**ELLSWORTH.**—In Hartford, Connecticut, on Sunday, November 29th, Dr. Pincney Webster Ellsworth, aged fifty-three years.

**FIELD.**—In Bayonne, New Jersey, on Wednesday, November 25th, Dr. Jacob T. Field.

**HARRISON.**—In Keokuk, Missouri, on Tuesday, November 24th, Dr. V. H. Harrison, aged sixty years.

**HOLLEMBÆK.**—In Burlington, Vermont, on Thursday, November 5th, Dr. Henry H. Hollembæk.

**LEAKE.**—In New Orleans, on Saturday, November 28th, Dr. James Leake, in the thirty-fifth year of his age.

**McCLURG.**—In West Chester, Pennsylvania, on Tuesday, November 3d, Dr. John Russell McClurg.

**NIMOCKS.**—In Lawrence, Mississippi, on Friday, November 27th, Dr. T. B. Nimocks.

**WILLIAMS.**—In Baltimore, on Saturday, November 21st, Dr. Philip C. Williams, aged sixty-eight years.

**WISE.**—In Trenton, South Carolina, on Wednesday, November 25th, Mrs. G. W. Wise, wife of Dr. G. W. Wise.

## Letters to the Editor.

### THE INCOMPATIBILITY OF ANTIPYRINE AND CALOMEL.

112 EAST 128TH STREET, NEW YORK, November 21, 1896.

To the Editor of the *New York Medical Journal*:

SIR: It is unpleasant to appear in the rôle of a critic; we are all fallible, we are all liable to err. But when a writer of an article, starting from false premises, arrives at wrong conclusions, and those conclusions, if accepted as the truth and applied in practice, might lead to unpleasant consequences, then it becomes the duty—unpleasant as it may be—of those who are in a position to do so to correct such statements and point out where the error lies.

Dr. Rosenau, in this week's issue of the *Medical Journal*, says he does not believe in the incompatibility of antipyrine and calomel, because he has seen no untoward effects from their simultaneous administration. Well, that those two drugs are incompatible has been known for nearly a decade, and they are stated to be so in all the authoritative reference books. That knowledge must certainly have been gained through facts and investigations. But we will let that—the question of authorities—pass. Dr. Rosenau states his opinion that the assertion that a large amount of mercuric chloride is generated is probably based on laboratory experiment, and that in the economy neither drug recognizes the presence of the other. Now, in the first instance, it will not do to sneer at laboratory experiments; too much is the science of medicine indebted to that of chemistry. It is true that test-tube experiments do not *always* accord with results obtained in the animal economy, but they oftener do than not. In the second instance—and this is an important point for the doctor to remember—we do not at all maintain that the mercurous is converted into mercuric chloride in the economy. It is *before it enters the economy*, it is in the pharmacist's laboratory, while being rubbed in the mortar, while lying in intimate contact in the "char" or capsule, that the chemical interaction takes place. I have no objection to giving those drugs separately, even only five minutes apart; there is no fear of their reacting upon one another in the stomach or alimentary canal, as they will not be "intimate" enough to do it. The same holds true of antipyrine and nitrous ether. I frequently prescribe a dose of antipyrine to be followed in a few minutes by a large dose of the spirit of nitrous ether (in order to counteract the cardiodepressant effects of the former, and to act synergistically with it, as a febrifuge); but I would most emphatically protest against prescribing those two drugs in the same bottle. The new nitrous compound—of a beautiful grass-green color—which forms in the bottle



within a few minutes is a most treacherous and dangerous substance. And now as to Dr. Rosenau's statement that he has never seen any bad effects from the administration of antipyrine and calomel simultaneously. This I am only too willing to believe. The doctor has been prescribing from a twelfth to a quarter of a grain of calomel *pro dosi*. As it is not maintained that the whole amount of calomel becomes converted into bichloride, but only a small proportion, say one eighth, the amount of bichloride formed in each powder would be from one ninety-sixth to one thirty-second of a grain, and such a quantity could not produce any injurious effects, even in a young infant. But antipyrine and calomel are prescribed in doses of from ten to thirty grains and from five to ten (or even fifteen) grains, respectively. And when a powder is prescribed containing ten grains of each of the drugs an amount of bichloride may be generated which may produce, not fatal, but toxic effects. It may not happen in every case, but as it has happened in some cases—one within my personal knowledge—we do not want to forget that fact. And another important point: Antipyrine, though a fairly stable compound, is nevertheless so easily affected by a great number of substances that the safest way is to prescribe it alone or only with drugs which we know have no injurious effect upon it.

WILLIAM J. ROBINSON, M. D., Ph. G.

## Proceedings of Societies.

### NEW YORK STATE MEDICAL ASSOCIATION.

*Thirteenth Annual Meeting, held in New York, on Tuesday, Wednesday, and Thursday, October 13, 14, and 15, 1896.*

The President, Dr. DARWIN COLVIN, of Wayne County, in the Chair.

(Continued from page 593.)

#### The Technics of Intubation in Children; Some Remarks on the Time for Operation and After-treatment.—

Dr. THOMAS J. HILLIS, of New York County, read a paper with this title. He recommended that the child should be prepared for intubation by wrapping it in strong muslin, the arms hanging by the sides, and the forearms and hands crossed on the abdomen. This position, and the use of muslin instead of a blanket, secured to the operator more room for the necessary manipulations. Instead of keeping the tube and introducer vertical and in the median line during the whole process of intubation, as was usually done, space could be economized, and in some instances the operation facilitated, by tilting the introducer and tube during the first part of the introduction, so that the tube would lie transversely across the tongue. Of course, as soon as the tube touched the guiding finger, the instrument should be quickly restored to the vertical position in the median line of the body, and inserted into the larynx. Among the various methods that had been proposed for extraction of the tube there was one simple procedure which was applicable to infants under a year old, in whom the cartilaginous rings of the trachea were soft and yielding. This consisted in placing the infant on its back, with a small pillow under the neck, and the head thrown well back, and, by means of the thumb and fingers "expressing" or forcing the tube upward and back-

ward into the mouth, where it could be seized with the thumb and index finger of the disengaged hand. The speaker highly commended the ingenious contrivance for extraction which was invented by Dr. Dillon Brown. He said that no hard-and-fast rule could be laid down as to the number of days the tube should be allowed to remain in the larynx, but it was always well to err on the side of leaving it in a little longer than was absolutely demanded. There would be slight obstruction present for a short time after the removal of the tube, but if this was not very great, it need cause the physician no special uneasiness. It was well known that considerable difficulty was often experienced in feeding children while the tube was in the larynx. The difficulty was commonly overcome by placing the child on the nurse's lap, on its back, with the head hanging down over the edge of the lap. Personally, he preferred to have the little one lie on the stomach, face down, as this gave greater command over the constrictors.

**Temperature as an Element in Prognosis.**—Dr. JOHN SHRADY, of New York County, spoke of the accuracy of the temperature record, as compared with that of the pulse and respirations. It therefore furnished the physician with more reliable information than the other vital signs did, but the temperature record, as an index of the problems of waste and supply, should be ever considered in the light of sex, age, temperament, and environment. A high temperature was not necessarily a signal of danger—a temperature of 106° F. on the second or third day of catarrhal pneumonia was not so grave as a temperature of 105° F. in the second or third week of typhoid fever. Da Costa had reported a recovery in a case of cerebral rheumatism after a maximum axillary temperature of 110° F. A temperature of 96.5° F., he said, was the rule in shock, apoplexy, diabetes, tuberculous peritonitis, cholera, and pulmonary embolism. In the prognosis of all these conditions there were no embarrassments, for the *finale* was not long delayed, and was sure to be gloomy—the fires were low and smoldering. His conclusions were: 1. That high temperatures were not so uniformly fatal in their tendencies as low temperatures. 2. That a high temperature of short duration was simply indicative of an acute infection or of some insignificant disturbance. 3. That a subnormal temperature, as a rule, presaged death. The greatest disappointments were the rule in cases of collapse.

**The Medical Treatment of Inebriety.**—Dr. T. D. CROTHERS, of Hartford, Connecticut, read a paper on this subject in which he entered a plea for a more careful and general study of inebriety by physicians, particularly as regarded the ætiological factors entering into individual cases. He said that the removal of all spirits at the commencement of the treatment was always followed by the best results, and the reaction could be effectually neutralized by giving a twentieth of a grain of nitrate of strychnine, every four hours, with the bromides for the relief of insomnia. This treatment should be supplemented by a calomel purge, the use of hot baths, and vigorous massage, and by the administration at stated intervals of such nourishment as hot broths. Where a gradual withdrawal of spirits was insisted upon, the form of spirits should be changed to the wines and beers. It would be found that the withdrawal of liquor in these cases often resulted in the sudden and unexpected development of grave organic disease—*e. g.*, tuberculosis and dementia. Inebriety was not infrequently the result of an unusual and pro-



longed strain, or was due to climatic conditions and environment; hence, when such factors were present, every effort must be made to eliminate these factors, otherwise there would be a speedy relapse. Some of the preparations were useful in averting the "drink storm," but the administration of drugs, like apomorphine, with the idea of causing a disgust for liquor, was always dangerous and rarely satisfactory. The keynote to the successful treatment of these cases was to be found in sharp elimination. Where the bromides were indicated, they should be given in large doses—from fifty to a hundred grains—but these doses should not be continued for more than a very few days. No single remedy was capable of meeting a wider range of conditions than the Turkish bath associated with massage.

**The Surgical Relief of Obstruction of the Common Duct by Biliary Calculi.**—Dr. H. O. MARCY, of Boston, described in this paper the operation which he had been the first to do for the removal of calculus situated in the common duct. The original operation had been done on October 20, 1889, according to the following method: The walls of the common duct were divided with scissors and their edges everted from over the calculus, the abdominal cavity having been previously shut off from the field of operation by sponges. With a fully curved needle armed with selected tendon suture, the divided edges of the thickened mucous membrane of the duct and gall bladder were united by a continuous suture. Over this the peritoneal edges were coaptated by a layer of continuous suture, and then a third layer of tendon sutures was applied, the sutures being taken parallel to the long axis of the wound, and through the peritonæum. Tension on this suture buried not it alone, but also the uninjured peritonæum. After the removal of the sponges, the peritonæum was closed with a continuous double tendon suture. The divided muscular structures were united in a similar manner in separate layers, and the skin was coaptated by a layer of buried tendon sutures. The wound was sealed with collodion. Convalescence was rapid. The calculus, when dried, weighed fifty-nine grains.

**A New Microtome.**—Dr. SIDNEY YANKAUER, of New York County, exhibited a simple and very inexpensive microtome which he had devised, which had been proved capable of doing as good work as the more expensive instruments. With the rude model shown, he said, he had cut sections in celloidin a thousandth of an inch thick, and in paraffin sections only one five-thousandth of an inch thick.

**A Successful Plaster-of-Paris Bandage Cutter.**—Dr. YANKAUER also exhibited a new instrument for cutting plaster of Paris. It consisted of a series of peculiarly ground knife blades arranged around the periphery of three wheels, which were all fastened to one axle and were rotated after the manner of a circular saw. This peculiar construction permitted of a very rapid and easy cutting action, and kept the teeth free from clogging.

**Physiological Deductions regarding the Usefulness of So-called Animal Extracts.**—Dr. H. A. HAUBOLD, of New York County, took the position that these substances must be so altered by digestion and other changes that there was no reason to suppose that they reached the tissues in a form which would exert any specific action. It had been alleged that when the nucleins were administered hypodermically they gave rise to a leucocytosis, but, while this was a fact, it only seemed to show that the blood made a special effort to rid itself of this foreign body.

**A Point in the Treatment of Endometritis.**—Dr. WILLIAM H. ROBB, of Montgomery County, advocated a more general use of nitrate of silver in the treatment of endometritis. His plan was to make no intra-uterine applications without rigid antiseptic precautions, and if the drainage was not sufficient, to attend to this matter at once. Incidentally, of course, injuries were repaired and displacements reduced. The application of the nitrate of silver should be made carefully and thoroughly, and to do this it was absolutely necessary that all unhealthy secretions should be removed previously from the interior of the uterus, and the latter be left clean and dry. For mild cases and those seen early he preferred to use a five- or ten-grain solution of nitrate of silver, but the more chronic cases required very much stronger solutions or even a light touching with the solid stick.

Dr. L. J. BROOKS, of Chenango County, said that he would not deny that such applications were followed immediately by an apparent improvement or cure, but further observation would show that a real cure had not been effected, but that, on the contrary, the treatment had left an atrophic, non-secreting, and irritable endometrium. There was no such objection to the use of the curette.

Dr. J. FRANCIS CALEF, of Middletown, Connecticut, said that he had found a weak solution of nitrate of silver, 1 to 3,000, soothing to an inflamed mucous membrane, but to use these very dilute solutions effectively the water for washing the surface must be free from chlorides.

Dr. JOHN CRONYN, of Erie County, said that he had frequently seen much benefit from the application of strong solutions of nitrate of silver to the endometrium.

**A Class of Fatal Cases Presumably Due to Intestinal Ptomaines.**—Dr. E. D. FERGUSON, of Rensselaer County, described the histories of eight cases—four medical and four surgical—in which the chief feature had been the sudden onset of symptoms, vomiting, at first, of watery mucus containing a few dark specks, and later the vomiting of coffee-ground material, and the development of a slight icterus. Death had occurred in about forty-eight hours. The cases had not been in the same locality, and had occurred at different times, extending over a period of a number of years. In the autopsies that had been obtained there had been no evidence of intestinal obstruction, peritonitis, or sepsis, but the liver had been the seat of parenchymatous inflammation, with softening and acute atrophy. Intestinal obstruction could certainly have been excluded in some of the cases, as, for instance, in one in which there had been free movements of the bowels up to the day of death. The only explanation that he could offer was that the condition had been an acute toxæmia resulting from the accumulation of a bacterial ferment or an enzyme in the blood, or else that through some extraordinary influence of the nervous system the digestive and assimilative processes had been so interfered with that a virulent form of poisoning had been produced.

**Two Interesting Cases of Surgery of the Kidney.**—Dr. J. E. JANVRIN, of New York County, reported a case of multiple abscess of the kidney, with nephrectomy and death from uræmia, and a case of fibrolipoma of the kidney capsule, with successful laparotomy.

**The Palliative Treatment of Cancer of the Cervix Uteri and Bladder.**—Dr. NATHAN G. BOZEMAN, of New York County, advised that the strictured condition of

the vagina should be remedied by the wearing, for a few hours daily, of intravaginal dilators, and that where the disease had produced a vesico-vaginal fistula irrigation should be performed. This last was best accomplished by the patient wearing the Bozeman vesical drainage support, and using it in conjunction with his intermittent siphon apparatus, by which continuous irrigation could be kept up for three hours at a time.

**The Bromides as a Cure in Diphtheria.**—Dr. ROBERT ABERDEIN, of Onondaga County, presented a paper on this subject in which he stated that he had been led to adopt the treatment by an accidental observation regarding the action of the bromides in an epidemic of diphtheria that had occurred in an asylum. His experience with this treatment had comprised thirty-eight cases, with only two deaths. He expressed the greatest confidence in its value.

**Recent Investigations concerning Eclampsia.**—Dr. W. T. LUSK, of New York County, opened the discussion of this subject by calling attention to the fact that many pregnant women had albuminuria without eclampsia, and that many others had eclampsia without any evidence of abnormality in the urine. It was now well known, he said, that many poisons resulting from excessive tissue change might give rise to convulsions, and it was well to remember that a diminution in the quantity of urea indicated an excess of the other poisons resulting from tissue metabolism. It was not improbable that eclampsia might result from intestinal decomposition and the formation of certain toxins. A plan of treatment now finding much favor in Europe consisted in keeping pregnant women who exhibited slight albuminuria, with perhaps slight nervous symptoms, on a rigid milk diet and carefully regulating the bowels. Personally, he would not care to interfere with pregnancy where the only symptom of disorder was a slight albuminuria. Where interference was demanded, he preferred to induce labor by the use of Barnes's bags, except in the rare and extremely urgent cases where it seemed justifiable to still further expedite labor by making Dührssen's incisions into the cervix. When it became necessary to resort to these incisions, they should be closed again by suture immediately after delivery. Where a patient with puerperal eclampsia had turgid blood-vessels no known remedy could equal the removal of sixteen ounces of blood from the arm. Veratrum viride was at present attracting attention in Europe, but he had had no personal experience with it in the treatment of puerperal eclampsia.

Dr. E. R. SQUIBB, of Kings County, recommended the employment of the official fluid extract of veratrum viride, in doses of five minims every ten or fifteen minutes, until the pulse had been affected by it; after this, the drug should be administered for some time longer, but in diminished doses. Norwood's tincture was of very variable strength. The pulse was sometimes apparently feeble, but even here the veratrum should not be withheld, but given in smaller doses.

The PRESIDENT said that he usually gave not more than five minims of the veratrum, repeating the dose in half an hour. The pulse was certainly sometimes quite deceptive; even when it was apparently feeble it was proper to give veratrum and bleed.

**The Duty of the Public to the Physician.**—Dr. WILLIAM M. BEMUS, of Chautauqua County, presented a paper with this title in which he reviewed some legal points of general interest to the physician. He called attention to the fact that if a physician was sued by

some charity patient, even though the case was decided in his favor, and the plaintiff ordered to pay the costs, the physician would find that he would have to foot his own bill, being the only responsible party. Malpractice could only be affirmed when the physician deliberately set aside well-known principles. As a rule, anything warranted by good practice and not objected to by the patient was justified in law. The prescription had been decided to be the property of the patient, and, while the druggist had a right to retain it as a voucher, he had no legal right to renew or duplicate it without the knowledge and consent of the prescriber.

**A Plea for the General Use of Measures to Prevent Ophthalmia Neonatorum.**—Dr. A. A. HUBBELL, of Erie County, read a paper on this subject in which he showed that one or two children out of every thousand born in this country had ophthalmia neonatorum, and that about fifteen per cent. of those who had had this disease and had not been properly treated became blind in both eyes. He described various methods of prophylaxis, and showed by statistics from different institutions what a remarkable reduction in the percentage of children having ophthalmia neonatorum had been effected by the systematic use of the now well-known Credé method. This consisted in giving the child a bath immediately after ligating the funis, and then, after wiping the eyelids with absorbent cotton, instilling into each eye a drop of a ten-grain solution of nitrate of silver. As ophthalmia neonatorum developed where there had been not the slightest ground for suspecting that the mother had had gonorrhoea, the only effective method of prophylaxis presupposed the employment of the treatment in every newborn child.

**The Address in Surgery** was delivered by Dr. CHARLES PHELPS, of New York County. The first part dealt principally with a consideration of the remarkable impetus that had been given to surgery by advances in the modern science of bacteriology. The remainder of the address was devoted to ethical matters, principally the common practice of exploiting surgical operations in the daily newspapers.

**Supplementary Notes upon Tendon-grafting and Muscle-transplantation for Deformities following Infantile Paralysis.**—Dr. S. E. MILLIKEN, of New York County, presented a paper on this subject which was supplementary to a similar communication presented a year ago. He said that he had operated in this class of cases altogether fourteen times, and in only one instance had there been a failure to get union. He preferred to use kangaroo tendon on the tendons and muscles in the closure of the sheath, and interrupted catgut for the wounds in the skin. The limb should, of course, be perfectly immobilized by means of plaster of Paris. The best results were obtained in young children.

**Auscultatory Percussion.**—Dr. LOUIS L. SEAMAN, of New York County, exhibited his perfected instrument for practising auscultatory percussion without the aid of a second person. He also showed a very superior form of stethoscope which he said had come into vogue in Europe. It consisted of a small hard-rubber chamber, closed at the lower, or chest, end with a diaphragm not unlike that used in the telephone, and at the upper end by a rubber cover through which soft-rubber tubes passed up to the ears. He stated that in this form of stethoscope extraneous sounds caused but little inconvenience, and that auscultation was very satisfactory with it, even though it was applied to an irregular surface. When it was desired to localize the sounds more accu-



rately, this could be accomplished, he had found, by screwing a hard-rubber stem into the diaphragm.

**The Peripheral Neuralgias of Traumatic Origin.**—Dr. THOMAS H. MANLEY, of New York County, expressed the belief that the protoplasm of the blood played a direct and important part in the causation of painful affections of the nerves.

(To be continued.)

## Book Notices.

*Genius and Degeneration.* A Psychological Study.

By Dr. WILLIAM HIRSCH. Translated from the Second Edition of the German Work. New York: D. Appleton & Co., 1896. Pp. vi-333. [Price, \$3.50.]

THE author of this book is well fitted by education and by temperament for the task he has undertaken. His thorough acquaintance with the subject from its varied standpoints of literature, art, and music is evident on every page, while his judicial attitude is commendable.

At the beginning the need appears of precision in the definition of the three words genius, insanity, and degeneration, and the importance is made clear of reaching a common concept on which all may agree before conclusions as to the conditions or types can be drawn. That there are difficulties in the way to that end is shown by the numerous attempts which have been made, all of which are, to the author, more or less deficient from a scientific point of view.

Moreover, the translator's responsibility is great in a subject in which fine psychological shades of meaning are important.

Two types of genius, as represented by Goethe and Schiller, are studied at some length, the former unconventional, spontaneous, subjective; the latter formal and objective, but both have "creative fancy." This leads no nearer an understanding of the word, for if among geniuses are to be included scientific men, generals, statesmen—and who would deny that Newton and Napoleon were men of genius?—the qualifications of genius seem to the author to be entirely different, for "fancy never discovered bacteria . . . nor has it been successful as a method of medical diagnosis." So the conclusion is reached that "genius in different departments is referable to the most diverse psychical conditions," and that no psychological meaning can be attached to the word. It is evident that this result, while possible to a German, loses much of its significance in the English language. We would certainly not deny that a great diagnostician had imagination, although perhaps not *Phantasie*. As Ladd says, "It is a serious mistake to suppose that a student of any science can be great without a strong and lofty imagination."

The author refutes the extreme views of Lombroso and Moreau, and shows the fallacy of their assertions that men of genius are insane because of their "sporadic sense-deceptions" and the similarity which exists between many of the characteristics of minds at either end of the human scale, which similarity is purely external.

The chapter on degeneration shows still more clearly the inexactness of the quasi-scientific writings on that subject and the confusion that has arisen from them, a confusion which the author does not wholly escape in

his allusions to "higher degenerates" and "pseudo-geniuses."

It would be interesting to follow the author through the entertaining chapter on the influence of education on genius and those on secular hysteria (*Zeithysterie*) and art and insanity, in which the polemic becomes acute. Taking Wagner as an example, the absurdities of the amateur psychiatrist are well shown. The author is evidently an enthusiastic Wagnerian and a cultivated musician. And, although to-day Wagner needs little defense with the public, the review of his psychological attitude toward the world and his art will be read with interest.

The writings of Nordau have had a certain vogue because of their audacity. After the first surprise, it is doubtful whether thoughtful readers have taken him seriously. Dr. Hirsch has stated the position of all conservative thinkers clearly and with dignity, and has done an important service to art in defending what is good and noble in it from the attacks of cynics and pessimists.

The publishers' work, especially as regards the paper and typography, is remarkably good.

*An American Text-book of Physiology.* By HENRY P. BOWDITCH, M. D., JOHN G. CURTIS, M. D., HENRY H. DONALDSON, Ph. D., W. H. HOWELL, Ph. D., M. D., FREDERIC S. LEE, Ph. D., WARREN P. LOMBARD, M. D., GRAHAM LUSK, Ph. D., W. T. PORTER, M. D., EDWARD T. REICHERT, M. D., and HENRY SWALL, Ph. D., M. D. Edited by WILLIAM H. HOWELL, Ph. D., M. D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Fully illustrated. Philadelphia: W. B. Saunders, 1896. Pp. 16-17 to 1052. [Price, \$6.]

It must be said in all fairness that this work is free from the faults which are so much dwelt upon as inherent to variorum works, repetition and inconsistency. Every article in this text-book is a monograph written by a teacher most able to expound the principles involved, and the harmonizing work of the editor is only occasionally seen. A brief review only can be given in these pages, although the importance of the work demands much greater space.

The introduction, by Professor Howell, is a logical exposition of the needs of the student of physiology and of what this study involves. The chapter on the general physiology of muscle and nerve, by Professor Lombard, is an exhaustive *résumé* of the functions of these structures. In the succeeding four chapters, Professor Howell writes on secretion, on the chemistry of digestion and nutrition, on the movements of the alimentary canal, the bladder, and the ureter, and on the blood and lymph. The recent investigations upon the ductless glands are fully recorded, and Heidenhain's theory as to the functions of the glomeruli of the kidney is practically accepted. The succeeding chapters bear the marks of wide reading and of thorough investigation.

The chapter on the mechanics of the circulation of the blood and on the movement of the lymph, by Professor Curtis, bears out that physiologist's favorable reputation. The chapter is very clearly written, the deductions are logically made, and the arrangement of the subheadings adds to the value of the article. The nervous influences acting upon the heart and blood-vessels and the nutrition of the heart are thoroughly treated of by Professor Porter. Respiration and animal heat are



assigned to Professor Reichert and the chapters are written with care and exhaustiveness. The ranges of temperatures found in abnormal conditions, from 76.2° to 122° F., are explained on the ground of nervous disturbance, and the fallacy is made clear that bodily temperature varies directly with heat-production.

When one reads the chapter on the central nervous system, by Professor Donaldson, it may be seen what advances have been made in actual physiological knowledge within recent years. It reads no more like analogous chapters in text-books of ten years ago than they did like those of fifty years since. It is sufficient to state at this time that there is little that is valuable in recent literature that has escaped record here.

The chapters on vision, by Professor Bowditch, and on the other special senses, by Professor Sewall, are succeeded by a chapter which treats of the voice and speech and the action of locomotor mechanisms. They are in keeping with the standard of the book.

A comprehensive study of reproduction, by Dr. Lee, is next in order. It is not too high praise to say that it is one of the best articles comprised in the volume. It is exhaustive and fair, and gives evidence not only of wide reading but of diligent study. We know of no text-book of physiology and of but one similar paper which contains an article on this subject so thorough in its embrace, so impartial in its conclusions, and withal so well written, as this one.

The volume concludes with a very able chapter on the chemistry of the animal body, by Dr. Lusk. The only criticism that might be made of it is that it may be too technical for the student of physiology.

The book is handsomely printed, is profusely illustrated from good cuts, and has a carefully made index. Its value is enhanced by footnote references to the literature of the subject with which each chapter deals. It is safe to predict that the *American Text-book of Physiology* will see several editions.

*Röntgen Rays and Phenomena of the Anode and Cathode. Principles, Applications, and Theories.* By EDWARD P. THOMPSON, M. E., E. E. Concluding Chapter by Professor WILLIAM A. ANTHONY, formerly of Cornell University. Sixty Diagrams. Forty-five Half-tones. New York: D. Van Nostrand & Co., 1896. Pp. xiv-190.

THE timely appearance of this little book will certainly be appreciated by many a scientific reader, for it embodies those matters which bear both directly and indirectly upon the making of Röntgen pictures and presents them as no other book as yet pretends to.

The book is mainly a presentation of the methods and the results of experimentation in anodal and cathodal phenomena, and includes theoretical considerations bearing upon the subjects as well as practical statements of methods and applications. Persons who are destitute of knowledge of electricity will certainly not be in a position to digest and properly assimilate the contents of this volume, and the physician of average information on that subject will encounter much that is beyond him, but he will unquestionably derive from it some portion of information (the brief chapter on the surgical applications of X rays is too scant to satisfy), while to the comprehending student of electrical science the book will unquestionably be a much-appreciated treat, presenting as it does a record of what must be to him an absorbing study.

The illustrations of the book are numerous and admirable and, too, so representative and instructive that even the uninitiated may derive both satisfaction and profit from them.

*Royal Infirmary Cliniques.* By ALEXANDER JAMES, M. D., F. R. C. P. E., Physician to the Royal Infirmary, Edinburgh. Edinburgh: Oliver & Boyd, 1896. Pp. 167. [Price, five shillings.]

Good clinical instruction is an invaluable part of a medical student's education, and the author, recognizing the disadvantages attendant on note-taking, has, for the benefit of his class, published his lectures in various journals. Sixteen lectures are here brought together in book form. The cases chosen for clinical demonstration are, with a few exceptions, those ordinarily met with in hospital practice. The value of the book lies in the clear and comprehensive manner in which the author deals with each subject. A Case of Primary Contracting Kidney is a model representation of what a satisfactory clinical lecture should be. One fact impresses us in all of the clinics, that the cases are well studied before their presentation.

The book is a good one for all students of medicine to read.

*A Pictorial Atlas of Skin Diseases and Syphilitic Affections.* In Photo-lithochromes from Models in the Museum of the Saint-Louis Hospital, Paris. With Explanatory Woodcuts and Text, by ERNEST BESNIER, Physician to the Saint-Louis Hospital; A. FOURNIER, Professor of the Faculty of Medicine; TENNESON, Physician to the Saint-Louis Hospital; HALLOPEAU, Member of the Academy of Medicine, and DU CASTEL, Physician to the Saint-Louis Hospital. With the Co-operation of HENRI FEULARD, Curator of the Museum, and L. JACQUET, Secretary of the Dermatological Society of France, etc. Edited and annotated by J. J. PRINGLE, M. B., F. R. C. P., Assistant Physician to and Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. London: The Rebm Publishing Co., Ltd., and Philadelphia: W. B. Saunders, 1896.

PART IV of the *Pictorial Atlas of Skin Diseases* has been received. Pictorial it is, but artistically below the previous numbers, and anything but up to the standard promised when the atlas first appeared.

The plate illustrating, or rather intending to illustrate, psoriasis is particularly mediocre—the normal flesh tint is dead and the portrayal of the lesions gives but a poor idea of typical silvery scales. The redness spoken of in the text as extending beyond the scales and encircling them with a colored border "*distinctly visible in the plate*" is, to say the least, a chromatic stretch of the imagination, and the description by M. Henri Feulard, who supplies the accompanying text, is based, no doubt, more on his accurate knowledge of the disease than on his familiarity with the plate, or at least his just appreciation of its character. The other plates—three in number, two showing the lesions of mycosis fungoides in an advanced stage and one leprosy of the face—are not bad. The latter disease is generally so characteristic that it would take a pretty poor plate indeed not to give some idea of what it was meant to portray. The text of this number is, as usual, beyond criticism. Professor Besnier shares with Feulard in their excellent articles the credit of whatever benefit

this number affords, but, the feature and value of the *Atlas* being a clinical aid supposed to be due to its illustrations, we hope those to be issued in the future will be what they heretofore have been—the first of their kind—and on a par with the work of the gentlemen who so ably contribute the text.

*The Spas and Mineral Waters of Europe.* With Notes on Balneotherapeutic Management in Various Diseases and Morbid Conditions. By HERMANN WEBER, M. D., F. R. C. P., Consulting Physician to the German Hospital and to the Royal National Hospital for Consumption, Ventnor, etc., and F. PARKES WEBER, M. D., M. R. C. P., Physician to the German Hospital. London: Smith, Elder, & Co., 1896. Pp. xii-380. [Price, \$2.]

ALTHOUGH from force of geographical circumstances this little book may be less interest the American practitioner and therefore may be less widely read in this country, we caution the reader of this review that he should not neglect a book so well written and so valuable, for surely one should know things which happen or exist even beyond the limits of one's locality or neighborhood, and, aside from matters necessarily of local moment, so much of general and important information is presented in this work that much benefit must necessarily follow the reading.

The book opens with a chapter upon the therapeutic use of plain water, and this is immediately followed by one upon the constituents and the classification of mineral waters. To this succeeds a consideration of the actions of mineral waters on the body in their external and internal employments, while Chapter IV deals with the various agents and adjuvants which go to make spa treatment effective, and Chapter V depicts the life at spas and considers the seasons for treatment and its duration as well as "after-cures." Then follow chapters upon the various spas, arranged for consideration upon the basis of chemical or thermal activities. Chapter XVIII concludes the work, and ably treats of the application of balneotherapeutics to morbid states.

The style in which the book is written is notable for its easy, almost conversational tone, and this contributes much to the value of the treatise. Indeed, to read it is heartily to enjoy it, and this is a comment which, as everybody knows, it is seldom possible to make of a medical work. We have derived much pleasure and satisfaction from this book, and we believe that many will do the like.

*Food in Health and Disease.* By I. BURNET YEO, M. D., F. R. C. P., Examiner in Medicine at the Royal College of Physicians, etc. With Illustrations. New and Revised Edition. Philadelphia: Lea Brothers & Co., 1896. Pp. viii-592. [Price, \$2.50.]

WE doubt whether any book upon dietetics has been of greater and more widespread usefulness than this much-quoted and much-consulted work of Professor Yeo's. Every characteristic of the work has contributed to its utility—its comprehensiveness, its well-ordered arrangement, its forcible style, which even the numerous though necessary tabulations and analyses have not sufficed to nullify—moreover, its soundness and accuracy both of judgment and of fact, and finally the compact and therefore the more useful and available form of the volume. These traits have marked the several issues of the work, and the present revised edi-

tion perpetuates them and has naturally the added value of modern corrections and accessions.

Part I, which treats of food in health, is little altered as compared with that part in former editions, but to Part II, on food in disease, there has been a considerable amount of revision and addition. The value of this portion of the work is not to be overestimated. The dietetics of the gouty and of the obese, in particular, is most ably dealt with. The chapter upon special dietetic cures, too, is one from which much valuable information may be derived.

It is not too much to say that this work should have as much of future as it has had of past; indeed, its value is more apparent to-day than ever before.

*Diseases of the Eye.* A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, etc. With Two Hundred and Fifty-six Illustrations and Two Chromo-lithographic Plates. Second Edition, thoroughly revised. Philadelphia: W. B. Saunders, 1896. Pp. 7 to 679. [Price, \$4.]

THE fact that this book has passed through two editions and a supplementary edition during the four years of its existence indicates that its merits are appreciated by those for whom it is intended.

It is essentially what it purports to be, a handbook of ophthalmic practice, and whether a text-book serves the best purpose in ignoring the histological standpoint is a question which need not be decided here.

The author shows familiarity with the latest ophthalmological literature, and has, by numerous additions, brought the present edition quite up to date.

There are a few suggestions which it is necessary to make, although the inaccuracies are of minor importance. Not enough stress is laid on the after-treatment, especially the breaking up of adhesions, after Knapp's operation for trachoma. Subconjunctival injections of germicides are certainly of use in progressive ulcer of the cornea, and probably only in this condition. It is inaccurate to say (page 444) that a solid growth is not present if a detachment of the retina is tremulous. It is recognized that a small tumor may cause a large detachment, and that the diagnosis may be impossible at a certain stage. On the twentieth line of page 378 it is probable that the word *by* should be substituted for "to." It adds to the confusion already existing if the retinitis punctata albens of Mooren is called "central punctate retinitis"; if the former disease exists as an entity, it is best to adhere to the form described by Gayet and Dor and by Nettleship, which probably belongs to the large class of congenital degenerative changes of which retinitis pigmentosa is an outspoken example.

It is an ungrateful task to call attention to the faults in a book so uniformly excellent; the merits are so numerous that it is impossible to mention them. The book will recommend itself chiefly by its thoroughly practical tone, its clearness and terseness of language, and its modernism. The publishers' work is excellent.

*Recherches cliniques et thérapeutiques sur l'épilepsie. Phylérie et l'idiotie.* Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1895. Volume XVI.

THIS report of the hospital for epileptic and idiotic children at Bicêtre is a well-illustrated, well-printed,



interesting book. The director of the hospital, M. Bourneville, has gathered some of the more striking cases that were under his care during the year 1895, and offers full descriptions of their clinical courses, of the therapeutic measures pursued, and, when possible, of the autopsies. The value of craniectomy in congenital idiocy due to premature ossification is upheld. The opinion is expressed that a similar surgical procedure in cases of epilepsy can not be heartily commended, at least at present. The value of thyreoid feeding in cretinism is strikingly shown in a series of three cases in which the patients were under observation for from three to six years. It certainly is a humorous notion to show portraits of the three cretins, naked, hand in hand. The influence of thyreoid feeding in obesity is recorded, and illustrative cases are cited. The report is scientific, as such a report should be.

*Transactions of the Association of American Physicians.*  
Eleventh Session, held in Washington, D. C. Vol. XI.

THE eleventh volume of these *Transactions* contains, as usual, a great many valuable papers, clinical and experimental. It is interesting to note that the blood has occupied the attention of many of the contributors, as indicated by the titles of such papers as Leucomaine Poisoning (by Dr. B. K. Rachford), Diphtheria Antitoxine sometimes found in the Blood of Horses that have not been injected with Toxine (by Dr. B. M. Balton), Parasitic Chyluria with *Filaria nocturna* in the Blood (by Dr. F. P. Henry), and A Case of Leucemia (by Dr. J. M. Da Costa and Dr. J. Sailer). Dr. L. J. Meltzer contributes a valuable experimental paper on the absorption of strychnine and hydrocyanic acid from the mucous membrane of the stomach. There is hardly an article in the volume that is not worthy of careful reading. The book is handsomely printed and the illustrations are far beyond the average in clearness and beauty.

#### BOOKS, ETC., RECEIVED.

*Twentieth Century Practice. An International Encyclopædia of Modern Medical Science.* By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume VII. Diseases of the Respiratory Organs and Blood, and Functional Sexual Disorders. New York: William Wood and Company, 1896. Pp. 3 to 796.

*The Practice of Medicine. A Text-book for Practitioners and Students, with Special Reference to Diagnosis and Treatment.* By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Physician to the Hospital of the University, etc. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1896. Pp. xvi-17 to 1184. [Price, \$5.50.]

*The Cell in Development and Inheritance.* By Edmund B. Wilson, Ph. D., Professor of Invertebrate Zoology, Columbia University. New York and London: The Macmillan Company, 1896. Pp. xvi-371. [Price, \$3.]

*The Non-heredity of Inebriety.* By Leslie E. Keeley, M. D., LL. D. Chicago: Scott, Foresman, & Co., 1896. Pp. 3 to 359.

*Post-mortem Examinations in Medico-legal and Ordinary Cases. With Special Chapters on the Legal Aspects of Post-mortems, and on Certificates of Death.* By J. Jackson Clarke, M. B. Lond., F. R. C. S., Assistant Surgeon to the Northwest London Hospital, etc. London, New York, and Bombay: Longmans, Green, & Co., 1896. Pp. viii-78.

*Rodney Stone.* By A. Conan Doyle. Illustrated. New York: D. Appleton & Co., 1896. Pp. 408. [Price, \$1.50.]

*Thirtieth Annual Report of the Home for Incurables.* For the Year ending June 11, 1896.

*Seventeenth Annual Report of the New York Hospital Saturday and Sunday Collection of 1895.*

*Archives de pharmacodynamie.* Volume III. Fascicule I et II. Paris: O. Doin, 1896.

*Acetanilide as an Antiseptic in Chronic Suppurative Otitis.* By Lewis S. Somers, M. D., of Philadelphia. [Reprinted from the *Medical News*.]

*The Use of Menthol in Pharyngitis.* By Lewis S. Somers, M. D. [Reprinted from the *Laryngoscope*.]

*Membranous Rhinitis.* By Lewis S. Somers, M. D. [Reprinted from the *University Medical Magazine*.]

*Nasal Syphilis with Extensive Lesions.* By Lewis S. Somers, M. D. [Reprinted from the *Medical and Surgical Reporter*.]

*Cerebral Disease following Middle-ear Suppuration.* By M. D. Lederman, M. D. [Reprinted from the *Journal of the American Medical Association*.]

*Extensive Necrosis of the Petro-mastoid following Middle-ear Suppuration.* By M. D. Lederman, M. D. [Reprinted from the *Manhattan Eye and Ear Hospital Reports*.]

*War-time Experiences in Northern China.* By W. F. Arnold, United States Navy. [Reprinted from the *Medical Age*.]

*The Cholera Epidemic in Moji, Japan, in the Twenty-eighth Year of Meiji.* By W. F. Arnold, M. D., U. S. Navy. [Reprinted from the *Annals of Hygiene*.]

*A Series of Articles on Speech Defects as Localizing Symptoms, from a Study of Six Cases of Aphasia.* By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Medical News*.]

*Rheumatismus Neonatorum.* By R. Abrahams, M. D. [Reprinted from the *Medical Record*.]

*Use and Disuse.* By W. E. Rotzell, M. D., of Nantberth, Pennsylvania. [Reprinted from the *Hahnemannian Monthly*.]

*A Case of Membranous Colitis treated by Right Colotomy, and Subsequent Closure of the Wound.* By W. Hale White and C. H. Golding-Bird. [Reprinted from the *Clinical Society's Transactions*.]

*A History of the Gift of Painless Surgery.* By Edward Waldo Emerson, M. D. [Reprinted from the *Atlantic Monthly*.]

*The Introduction of Public Rain Baths in America. A Historical Sketch.* By Harvey E. Fisk, of New York. [Reprinted from the *Sanitarian*.]

*The History of the Public Rain Bath in America.* By Herman B. Baruch, M. D. [Reprinted from the *Sanitarian*.]

*Special Forms of Rectal Fistulæ.* By William M. Beach, M. D., of Pittsburgh. [Reprinted from the *Medical and Surgical Reporter*.]

*Rectal Ulcers and the Electro-cautery.* By William M. Beach, M. D. [Reprinted from *Mathews's Medical Quarterly*.]

*The Frequent Dependence of Insomnia, Mental Depression, and other Neurasthenic Symptoms upon Disease of the Gastro-intestinal Tract.* By Boardman Reed, M. D., of Atlantic City, N. J. [Reprinted from the *Journal of the American Medical Association*.]

*Die Diagnose der Veränderungen von Gestalt, Lage*



und Beweglichkeit des Magens in Fällen, bei denen intragastrische Instrumente nicht anwendbar sind. Von Boardman Reed, M. D. [Sonderabdruck aus der *Berliner klinische Wochenschrift*.]

Ueber Blutparasiten bei heimischer und tropischer Malaria. Von Dr. Hans Ziemann, in Lehe. [Abdruck aus dem *Centralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*.]

## New Inventions, etc.

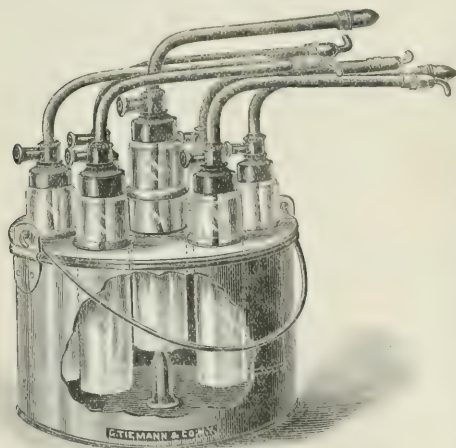
### A DEVICE FOR HEATING AND KEEPING HOT SOLUTIONS FOR SPRAYING THE NOSE AND THROAT.

By FRANK C. TODD, M. D.,  
MINNEAPOLIS.

ANY solution used cold in the nose is irritating to the delicate mucous membrane, and excepting in cases of epistaxis, which might be encouraged by warm applications, solutions used in the nose should be warm.

This rule does not always hold good in throat affections, as here sometimes cold applications are soothing to the inflamed parts; but in chronic affections of the nasopharynx, pharynx, tonsils, larynx, trachea, and bronchial tubes a warm spray will be found more agreeable and much more beneficial. This fact is recognized by laryngologists, but it is rare to find a physician who makes a practice of heating his solutions before spraying, owing to the fact that he must go to a great deal of trouble every time he wishes to treat a patient, wasting both time and medicine in the cumbersome procedure.

To obviate these objections I have had made and have used for a year a device such as is shown in the illustration, for the purpose of heating and keeping hot solutions for spraying.



The apparatus consists of two parts: a metal bucket, just large enough to stand upon one of the small gas stoves physicians frequently have in their offices, and a cover perforated with seven holes, each of a size to hold

the Davidson spray bottle. Fastened to this cover at the rims of these holes are hollow metal cylinders closed at the bottom. These are of sufficient length and diameter to permit the bottles to extend into the pail up to the rims on the bottles. Another hole with a screw-top cover is provided in order that the pail may be easily filled without the necessity of removing the whole cover with its contained spray tubes. The cover can be rotated and thereby any bottle may be easily procured.

When the heater is used the pail is filled with hot water, or cold water and heated. In either case it is not necessary to remove the cover or bottles. The water should be boiling hot, and, though the solutions in the bottles become almost as hot, they can be used as sprays, for when the solution becomes a spray its temperature will be much lower.

By this means the solutions will be kept warm for several hours.

The illustration would lead one to think that the spray bottles were immersed directly in the water, but this is a mistake on the part of the artist, as will be seen by the previous explanation.

The instrument is made by Messrs. Tiemann & Co. It is nickel-plated, and besides being useful is ornamental. They have also made a larger instrument with a capacity of twelve bottles, rectangular in shape (though the one described is large enough for ordinary purposes), and a small stand to rest the apparatus upon to prevent the hot pail from marring varnish or cracking glass.

304 DAYTON BUILDING.

## Miscellany.

**Notice to Medical Men and Librarians of Public Medical Libraries.**—By request, we copy the following from the *Journal of the American Medical Association* for November 21st:

1. All correspondence in relation to the enterprise should be addressed to Dr. George M. Gould, No. 119 South Seventeenth Street, Philadelphia, Pa.

2. Librarians of public medical libraries are requested to forward: 1. Accurate lists of periodicals, books, or pamphlets needed to complete their files. 2. Lists of duplicates which they will give other libraries or exchange for numbers desired. Give both volume numbers and dates of periodicals.

3. Owing to the additional labor it would involve, queries concerning the supply of desired items to private libraries can not be answered.

4. The conditions of all gifts are that the recipients shall be reputable organizations, composed of the regular medical profession; that the library shall be a public one—i. e., open for consultation during stated times to physicians generally; and that, if unbound, the periodicals and books received shall be bound and catalogued.

5. Every physician is invited to give the books and periodicals for which he has no further use to public libraries, and having no particular choice, to correspond with Dr. Gould in reference to their disposal in order to secure the greatest usefulness by the profession.

6. Send nothing before corresponding, in order that the gifts may go direct from the donors to their proper destination.

7. In order to secure the best success, physicians and librarians of other countries are invited to co-operate.

#### FOR PRESENTATION.

Librarians needing any of the following volumes (all numbers inclusive) to complete their files are requested to apply for them:

*American Journal of the Medical Sciences*, 1879 to 1890, except 1887, which is missing.

*American Medical Association, Reports and Transactions*, 21 odd volumes, 1847-8-53-55-56-66-68 to 76 and supplement volumes 1876 to 82.

*American Clinical Lectures*, vol. ii (1876).

*American Medical Journal*, 1884.

*American Medical Times*, vols. i and ii (1860-61).

*American Public Health Association Reports*, etc., vols. i to xvii.

One { *Archives of Scientific and Practical Medicine*, Vol. i (1873). *Chicago Medical Journal*, vol. xxviii (1871).

*Boston Medical and Surgical Journal*, vols. xciv to xcix (1876-78).

Braithwaite's *Retrospect*, vols. 1 to lxxxix.

*Canada Lancet*, vol. viii (1876).

*Chicago Medical Journal and Examiner*, vols. xxvii (1870); xxxiii (1876); xxxiv and xxxv (1877).

*Cincinnati Lancet*, vols. xviii and xix (1875-76).

One { *Canadian Journal of Medical Science*, 1876.

Vol. i { *London Medical Record*, part of 1873.

*Detroit Medical Review*, vol. x (1875-76).

*Gaillard's Medical Journal*, vols. xli and xlvii (1888).

*Journal of Nervous and Mental Disease*, vol. iii (1876).

*Louisville Medical News* (in one volume), vols. i, ii, and iii (1876-77).

*Medical News*, vols. xxxi to xxxix (1873-1881); also vols. xliii to xlvii (1883-85); vols. i and li (1887); and vols. — (1860-72); vol. — (1880); vols. — (1883-89); vols. — (1891-95).

*Medical Gazette*, vol. iv (1870).

*Medical Record*, iv, v, vi, vii (1869-72), xii, (1877); (1890-93).

*Medical and Surgical Reporter*, vols. xxxiv, xxxv, xxxvi (1876-77), (1885-89).

*Monthly Abstract of Medical Science*, vols. ii, iii, iv (1875-77).

*New York Medical Journal*, vols. xxii, xxiii, xxiv, xxv (1875-77).

*Obstetrical Journal of Great Britain and Ireland*, vols. iii, iv, v, vi, and vii (1875-77).

One volume of miscellany.

*Peninsular Medical Journal*, vol. i (1876).

*Philadelphia Medical Times*, 1870-1879, and 1882-1887.

*Proceedings of the Philadelphia County Medical Society*, vols. i to xv (1876-94).

*Polyclinic*, July to June, 1883-89.

*Practitioner*, 1868, July to December; 1869-73; 1877-94.

*Quarterly Epitome*, i to xx.

*Reports and Transactions of the International Medical Congress in London*, 1881. Four volumes.

*Richmond Medical Journal*, 1866-69.

*Transactions of the College of Physicians*, 1889, 1890.

*Transactions of the Medico-psychological Association*, 1895, Denver.

*Transactions of the Medical Society of Pennsylvania*, 1865-1894. Twenty-five volumes.

*Transactions of the Medical Society of Virginia*, 1896.

*University Medical Magazine*, October, 1888, to September, 1889.

#### FOR SALE.

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*Anatomie und Physiologie*, Hyman und Schwalte, all before Bd. xiii, 1886.

*Annals of Surgery*, vol. v, Nos. 1, 2, 3, 4, 6; vol. vi, Nos. 4, 5; vol. vii, Nos. 1, 2; vol. viii, Nos. 1, 2, 3, 5, 6; vol. ix, Nos. 1, 2, 4, 5, 6; vol. x, Nos. 1, 3, 4, 5, 6; vol. xii, Nos. 1, 2, 3, 4, 5; vol. xiii, Nos. 1 to 6; vol. xiv, Nos. 1 to 6; vol. xv, Nos. 1 to 6; vol. xvi, Nos. 1 to 6.

*Archiv für experimentelle Pathologie und Pharmakologie*, all before 1881; Bd. xiii, Heft 2; Bd. xvii, Heft 5; Bd. xviii, Heft. 1 to 6; Bd. xix, Heft. 1, 6; Bd. xx, Heft. 1 to 6.

*Archiv für klinische Chirurgie*, all before 1876 and after 1877 to 1884; Bd. xxxiii, Heft 3; Bd. xlv, Heft 2, 3, 4.

*Archiv für mikroskopische Anatomie*, all before 1886.

*Archiv für pathologische Anatomie und Physiologie und für klinische Medizin*, von R. Virchow, all before 1881; Bd. lxxxvii, Heft 2; Bd. lxxxix, Heft 2, 3; Bd. cii, Heft 3; Bd. cviii, Heft 1.

*Archives of Surgery*, all before 1890.

*Berliner klinische Wochenschrift*, all before 1880; vol. lxxxviii, Nos. 1 to 40.

*Brain*, vol. ix and from vol. xi.

*British Journal of Dermatology*, all before 1891; vol. vi, No. 5.

*Canada Lancet*, vol. i, vol. ii; vol. xxiii, January, February, July; vol. xxiv, October; vol. 26, September, October, November, December; vol. xxvii, October, January, March, and June.

*Canada Medical Record*, vol. ii, No. 4 and index; vols. xiii to xviii, want index; vol. xix, Nos. 6, 7; vol. xx, Nos. 1, 2; vol. xxi, Nos. 2 to 12; vol. xxii, Nos. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11.

*Centralblatt für Bakteriologie und Parasitenkunde*, Bd. xiv, No. 15; vol. x, No. 9; vol. xi, No. 25.

*Centralblatt für Chirurgie*, all before 1886.

*Climatologist*, vol. i, Nos. 1, 5; vol. ii, No. 5, and all after.

*College of Physicians, Transactions of the*, all before 1879.

*Congress of American Physicians and Surgeons, Transactions of the*, all before 1891.

*Deutsches Archiv für klinische Medicin*, vol. liv.

*Deutsche medicinische Wochenschrift*, all before 1886; vols. 1891-93.

*Dominion Medical Monthly*, 1893, No. 6; 1894, No. 6.

*Edinburgh Medical Journal*, The, vol. xvi; Dec., 1894; April, 1895; June, 1895.

*Gazette médicale de Montréal*, vol. i.

*Gynecological Journal*, all after 1872.

*Gynecological Transactions*, vols. iii, and all after 1881.

*Guy's Hospital Reports*, series 3, vols. xvi and xxv.

*St. Bartholomew's Hospital Reports*, vols. xxvii, xxviii.

*Royal London Ophthalmic Hospital Reports*, vol. v, part iii; vol. x, part ii; vol. xi, part iii; vol. xii, part iii, vol. xiii, index.

*Jahresbericht über die Fortschritte der Anatomie und Physiologie*, Bd. xii.

*Jahresbericht über die Leistungen und Fortschritte in der gesamten Medicin*, all before 1882; Bd. ii, Abth. 3.

*Journal de l'anatomie et de la physiologie*, all before 1886.

*Journal of the American Medical Association*, vol. ii, Feb. 2-16, May 24; vol. iii, July 26, Sept. 20, Oct. 11, 18, 25, Nov. 1; vol. iv, Jan. 10, 24, April 25; vol. v, July 18, Sept. 12, 19, Oct. 3, Nov. 28, Dec. 19; vol. vii, Jan. 1, March 19, April 9, 16, 23, 30, May 7, 21, June entire; vol. ix, July 9, 16, 23, Aug. 6, 13, 20, Sept. 10, Oct. 8, Nov. entire, Dec. 3, 10, 17; vol. xi, July 21, Sept. 8, Oct. 6, Nov. 24; vol. xii, Jan. 12, Feb. 16, 23, April 27, May 4, June 8; vol. xiii, Aug. 10, 24, 31, Sept. 7, Oct. 26, Nov. 9, Dec. 7, 14; vol. xiv, Jan. entire, Feb. 1, 22, March 8, 15, 22, April 19, 26, May 24, 31, June entire.

*Journal of Cutaneous and Genito-urinary Diseases*, vol. ii, vol. iii; vol. iv, Nos. 1, 4 to 12; vol. vi, Nos. 5, 8, 9; vol. vii.

*Journal of Cutaneous and Venereal Diseases*, vol. i, Nos. 3, 4, 8, 10, 11, 12; vol. ii, Nos. 1, 2; vol. iv, Nos. 1, 2, 3, 10, 11.

*Medical News*, all before 1882.

*Medical Record*, all before 1875.

*Montreal Medical Gazette*, vol. i.

*New York Medical Journal*, all before 1883; 1885, Nos. 1, 2; 1886, Nos. 1, 2; 1887, Nos. 1, 2; 1888, Nos. 1, 2.

*Ontario Medical Journal*, vol. i; vol. ii, Nos. 1, 6; vol. iii.

*Ophthalmological Society of the United Kingdom, Transactions of the*, vols. i, ii, iii.

*Pathological Society of London, Transactions of the*, vols. i, ii, iii, xx.

*Pharmaceutical Journal and Transactions*, second series, Nos. 4, 5, and all after 1886.

*Practitioner* (London), vol. xxix.

*Revue de chirurgie*, all before 1886.

*Revue de médecine*, tome iii, No. 2; tome iv, No. 1; tome v, Nos. 2, 3.

*Revue des sciences médicales*, tomes i, vi, x, xxvi.

*Royal Academy of Medicine in Ireland, Transactions of the*, vols. i, ii, and all after 1888.

*Sanitarian*, vol. xxxi, Sept.; vol. xxxii, March, June, July, Oct., Nov., Dec.

*Schmidt's Jahrbücher*, all before 1884.

*Société de biologie*, tomes ii, iii, iv, and all after tome v.

*Therapeutic Gazette*, all before 1881; vol. xiv, Nos. 5, 11, 12; vol. xvii, Nos. 1, 2, 3, 4, 8, 12; vol. xviii.

*Union médicale, L'*, vol. vii, Nos. 2, 8; vol. viii, No. 12.

*Year-Book of Pharmacy*, all before 1870 and after 1880.

*Zeitschrift für klinische Medicin*, Bd. iv, Nos. 3, 5, 6; Bd. viii, No. 4; Bd. ix, Nos. 10, 11, 12; Bd. xiii, Nos. 1, 6; Bd. xiv, Nos. 4, 5, 6.

**A Case of Rattlesnake Bite, with Recovery after the Continuous Application of a Tourniquet for Twelve Hours.**—Dr. William W. Ashhurst, of Chihuahua, Mexico, relates the following case in the November number of the *International Medical Magazine*: The patient, a boy fourteen years of age, was bitten on the third finger of the right hand by a small rattlesnake on the evening of July 16, 1896. A few minutes after the occurrence of the accident, some member of the family applied a Spanish windlass ligature to the arm just below the axilla. This remained in position about twelve hours, when it was removed by a physician.

The patient was first seen by the author on the morning of July 17th, more than twenty-four hours after the accident. He found him in a condition of profound depression. Neither the radial nor the axillary pulse of the affected arm could be felt at all, owing to the great swelling of the limb, and the pulse of the left radial artery was so weak that it was almost impossible to count it. The right arm was enormously swollen, and the skin of a brawny consistence. The injured finger did not seem more swollen than the others of the same hand. A shrill systolic murmur was perceptible over the aortic cartilage, which was probably of hæmic origin.

As the arm was warm, and there was present some feeble capillary circulation in the fingers, Dr. Ashhurst concluded, in order to soothe the intense pain of which the patient complained, to try the effect of a cooling lotion, and ordered therefore, locally, lint soaked in lead-water and laudanum, to be renewed every hour, and internally, alcohol, carbonate of ammonium, digitalis, and nux vomica, with liquid diet, and with rest in the recumbent posture strictly enforced.

On account of the length of time that had elapsed since the injury, the author deemed it useless to apply any local antidote, as he believed the poison to be already thoroughly distributed through the arm; and at the same time it seemed most probable that, on account of the feebleness of the circulation in the injured limb, the poison would enter the general circulation very slowly, thereby rendering further application of the tourniquet not only dangerous, but useless.

By evening, continues the author, the pulse was stronger, and the patient expressed himself as greatly comforted by the lead-water and laudanum. On the following day, July 18th, the patient's general condition had further improved somewhat, but the œdema had spread to the neck and chest. By July 19th it had extended downward as far as the crest of the ilium on the right side, completely around the neck, and across the chest as far as the left axilla. The skin was discolored, purple, and blackish in patches over the arm, side, chest, and abdomen. At this time the brawniness of the arm was disappearing, and the radial pulse could be felt. The patient was now put upon the use of Basham's mixture and nux vomica, and continued to improve.

By July 25th all the swelling and discoloration had disappeared, the heart murmur could no longer be detected, and the patient could use the right hand and arm, although they were still somewhat stiff and painful on motion. He was now allowed to get up and go home,



and subsequently reported himself, perfectly recovered, on August 21st.

**Kleptomania; the Case of Mrs. Castle.**—In an editorial on this subject in the *British Medical Journal* for November 14th, the writer refers to several points of unusual interest.

The plea of insanity or irresponsibility, he says, was raised at the trial. Probably there is no class of cases in which the duty of the expert is more onerous and more often misunderstood than these. The general cry is that there is one law for the rich and another for the poor; or that kleptomania is a rich man's disease. This is true to a great extent, for the simplest definition of the disease is causeless or unreasonable stealing, and the chief evidence of its being unreasonable is that the thief is rich and does not require the articles stolen. Mrs. Castle was shown by the medical witnesses to have had uterine trouble, which dated back from her confinement, and there was evidence that she had suffered more or less ever since, and had been very hysterical.

The writer states that Dr. Grigg gave evidence that her uterus was in a very abnormal condition, and was in such a state as is often met with in hysterical and unstable nervous states, and that Dr. Savage, who examined her in the prison during the remand, gave evidence that she was very hysterical and nervous, while the strongest witness of all was the prison surgeon, Dr. Scott, who had her constantly under his observation. The evidence of nervous instability was carried back by Dr. Gilbert to some time before the criminal acts. Thus, he says, there was a strong unbroken chain of testimony that the woman was abnormal as far as her nervous state was concerned. It has been pointed out both by prison surgeons, such as Dr. J. Baker, and by alienists that such people provide most of the kleptomaniacs.

It is now well recognized, the writer goes on to say, that with hysteria there may be an endless and incalculable series of strange and purposeless acts, and among these theft is not uncommon; young women, women at the menopause, and those suffering from menstrual irregularities are untrustworthy in many ways. Mrs. Castle, then, was of the class described. The nature of the thefts, too, is important, for it is known that in many cases there is an insane habit of collecting similar objects, and, as in this case, making no use of them. In this instance there were innumerable eye glasses, opera glasses, and fur tippets, besides odds and ends of great variety. The most unreasonable things taken were those of little value, such as plated toast racks, with the hotel mark on them, as well as towels of no real value.

The writer believes that, taking into consideration the nervous symptoms in the woman, associated as they were with uterine troubles, and also the character of the articles stolen, justice has been done in allowing her to go free, notwithstanding the apparent cunning shown in the stealing.

**Sulphonal Poisoning in a Case of Melancholia Agitata.**—The following case is related by Mr. F. P. Hearder in the *Lancet* for November 14th:

A man, forty-three years of age, single, of steady habits and with a good family history, four months previously to his admission on May 2, 1896, to the Wakefield Asylum had hurt the back of his head in an accident; he suffered much from shock and had been very nervous since. Three weeks before his admission he cut his throat. His physical state on admission was as

follows: His height was four feet ten inches, and his weight a hundred and twenty pounds. He was fairly well nourished. He had a cut across the front of his throat an inch and a half in length, which opened into the trachea and healed by granulations. When he spoke, a peculiar buzzing and whistling sound was produced by the air escaping through this opening. His hair was black and his complexion was sallow. The pupils were unequal, the right being more dilated than the left; the left pupil reacted more perfectly. His knee-jerks were exaggerated and there was slight ankle clonus. His superficial arteries were thickened and tortuous; the heart's action was irritable and irregular, and the sounds were accentuated, but there was no bruit. In the urine there was a copious mucous cloud; it was acid, of specific gravity 1.022, and contained no albumin or sugar. His mental state on admission was that of agitated or motor melancholia. He had a dejected and lacrymose expression and he had aural and visual hallucinations and delusions that harm (murder, etc.) was happening to his mother and sister; he cried and prayed for their safety. During the next few days he continued restless, sleepless, needed forcible feeding, and was constantly attempting to tear the bandage off his throat, and required continual supervision. A mixture of bromide of potassium with chloral hydrate was exhibited with no good effect. Sulphonal was then tried (fifteen grains three times a day), administered in a warm drink, apparently with marked good effect, as he took his food better, slept well at night, and was less restless during the day. On the fourth day his gait was ataxic and his expression and movements were like those of a drunken man. On the sixth day the urine—which, as is usual in patients taking sulphonal, was being carefully watched—was noticed to be becoming scanty and highly colored. The sulphonal administration was at once stopped and the urine examined. It contained no blood and no albumin. On the following day there was marked oliguria, about five ounces of urine having been passed in the twenty-four hours. The urine was of about the color of porter which had been shaken; there was no deposit, it was acid, and of specific gravity 1.015. The amount of albumin was exceedingly copious, the urine on being boiled becoming almost solid. The patient was in a somewhat soporose state; there was slight oedema of the eyelids, but no swelling of the legs and ankles. The pulse was quiet and the temperature about normal. He was kept recumbent and a saline purge was administered, a diuretic mixture containing citrate of potassium and acetate of potassium being given, with diluent drinks, milk and soda-water, and barley-water. On the following day the urine was still somewhat scanty, highly colored, acid, and of specific gravity 1.020, but it contained no blood or albumin. The patient was better and took food (fluid and semifluid) freely. Since then he has made considerable physical and mental improvement, but continues depressed. Several subsequent examinations of his urine have revealed nothing abnormal.

With the exception of a few cases of post-influenzal debility where single doses of sulphonal have been followed by toxic effects, says Mr. Hearder, all cases of sulphonal poisoning have been after long-continued use of the drug, the symptoms usually being lethargy, giddiness with digestive disturbances, anorexia, constipation, occasionally diarrhoea and vomiting, and hematuria, pyuria. A German observer, he says, has also noted ischuria, oliguria, and sometimes albuminuria. Professor Stokvis, on experimentally administering sul-

phonal to dogs and rabbits, found "it was only when the drug was pushed to a fatal termination that albumin appeared during the last days of life." In this case the dose was comparatively small and the toxic effects acute. The author considers that it is a good example of the necessity of training attendants and nurses to note the urine of every patient who takes sulphonal.

**A Case of Simple Fracture without Displacement of the First Phalanx of the Great Toe from an Indirect Cause.**—At a recent meeting of the Association française de chirurgie, a report of which is published in the *Gazette hebdomadaire de médecine et de chirurgie* for November 12th, M. Inglessis said that, as simple fractures of the great toe were rare, especially those from indirect violence, which were not generally accompanied by displacement, they might, because of this fact and the absence of deformity, be overlooked on a superficial examination. If they were unrecognized or neglected, these fractures might be followed by serious results, such as enormous and threatening swelling, with considerable ecchymosis, and blebs. This, he said, had occurred in a case which had come under his observation. The patient had suffered for three months with a fracture which had not united or been reduced, and he had been obliged to practise tenotomy of the long extensor of the great toe, and to immobilize the foot in order to maintain reduction and to obtain consolidation of the fracture. It might easily be understood, he said, that defective consolidation resulting from the lack of proper treatment might impede walking or lead to the necessity of wearing a particular kind of shoe.

**Contract Practice in California.**—Under date of November 18th, Dr. Lincoln Cothran, of San José, secretary of the Associated Physicians and Surgeons of Santa Clara Valley, writes to us as follows:

"We ask you to give publicity to this letter and accompanying resolutions, to the end that in all communities afflicted with the pestiferous practice of lodge doctoring, physicians may be encouraged to assert their independence through organization.

"Here, in Santa Clara County, Cal., containing seventy thousand population, all the physicians of the county, numbering a hundred and twenty-four, have entered the compact that has ridden us of a slavish evil, and wrought independence and freedom for the practitioners of medicine. Investigation shows that medical compensation for lodge work averages about fifteen cents on the dollar.

"Even respectable lodge physicians feel a sense of degradation in giving their services for fifteen cents on the dollar, and the ever-increasing spread of these alleged charitable institutions is absolutely destructive to the business of other physicians.

"The main incentive of the persons who band themselves together in lodges is to get cheap doctoring; they are willing to take but not to give. They belong to protective unions, and the same right should not be denied physicians. Ninety-nine per cent. of these people are able to pay reasonable fees to physicians, but will not do so as long as a few doctors in every community for the sake of immediate gain can be induced to stand as driven guys to the lodge politicians. No preacher or lawyer would give his services to these people for fifteen cents on the dollar. No grocery store or merchandise firm would contract to supply these lodges with goods at fifteen cents on the dollar of actual worth.

"The remedy indicated in the subjoined resolu-

tions is simple, and manifestly efficacious, depending upon the personal honor and free will of those concerned. Where one doctor temporarily profits by contract work the business and ethical rights of fifty others are violated; hence an overwhelming *esprit de corps* is created among physicians which will sustain a strict observance of the pledge."

The agreement is as follows:

"Whereas, Rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession, we, the undersigned physicians and surgeons of Santa Clara County, California, enter into the following agreement:

"First. We mutually, jointly, and individually pledge our word of honor not to enter into any contract or agreement, or renew any existing contract or agreement, either written, verbal, or implied, to render medical or surgical services to any lodge, society, association, or organization.

"Second. We will not render medical or surgical services to the members of the above-mentioned bodies for less compensation than we charge the general public for similar services.

"Third. This agreement shall not be construed to affect existing contracts between physicians and surgeons and the above-mentioned bodies.

"Fourth. These pledges shall take effect and be in force for a term of three (3) years from and after May 22, 1896.

"This agreement shall not apply to hospitals and purely public charitable institutions."

It is signed by the physicians of San José, Santa Clara, Los Gatos, Palo Alto, Mayfield, Mt. View, Morgan Hill, Gilroy, Saratoga, Agnews, Campbell, Milpitas, and College Park.

**The Late Dr. Thomas H. Burchard.**—The Northwestern Medical and Surgical Society has adopted the following resolutions:

"Whereas, It has pleased God to take away Dr. Thomas H. Burchard, distinguished by twenty years of active and faithful membership in the Northwestern Medical and Surgical Society of New York; and,

"Whereas, Our hearts are touched with a great sorrow by the suddenness of his decease; therefore

*Resolved*, That we desire to place on record an expression of our esteem of our late colleague, who had endeared himself to us by a long line of friendly and generous offices; that we desire to commemorate his devotion to the medical profession, exemplified in so high a degree by his many contributions to this and to other medical bodies, and by his acknowledged skill as a surgeon; and that we realize in the life of our friend the large equipment of mind and body essential to the success of a true physician.

*Resolved*, That a copy of these minutes be sent to the bereaved wife and sons and to the near relatives of our late colleague, to whom we extend our sincere sympathy in their great affliction.

*Resolved*, Further, that a copy of these resolutions be sent to the various medical journals of New York for publication.

For the society,

[Signed.] EDWARD S. PECK, *Committee*.

**The Loomis Memorial**, which is one of the buildings that make up the Loomis Sanitarium, in Liberty, Sullivan County, N. Y., was dedicated by Bishop Potter on Friday, November 20th. The cost of the building has been borne by Mr. J. Pierpont Morgan, of New York.



## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.\*

By WILLIAM OSLER, M.D.,

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE.

#### LECTURE VII.—DIAGNOSIS, PROGNOSIS, AND TREATMENT OF ANGINA PECTORIS.

**DIAGNOSIS.**—One must be a professional Ulysses in craft and wisdom not sometimes to err in estimating the nature of an attack of severe heart pain. There is no group of cases so calculated to keep one in a condition of wholesome humility. When you jostle against a hale, vigorous specimen of humanity, who claps you on the back and says, "The deuce take you doctors! I have scarcely yet got over my fright," you would like to forget that five years before you had almost signed his death warrant in a very positive diagnosis of angina pectoris vera. On the other hand, Mr. X. has left you with the full assurance that his cardiac pains are due to overwork or tobacco, and you have comforted his wife and lifted a weight of sorrow from both by your most favorable prognosis. With what sort of appetite can you eat your breakfast when, a week later, you read in the morning paper the announcement of his sudden death in the railway station? Or take another aspect—poor Mrs. Doe has gone softly all these years in the bitterness of her soul since you took that grave view of her vasomotor or hysterical angina!

As a rule you will have little or no doubt as to the existence of angina. The chief difficulty is in deciding upon the functional or organic nature of the trouble. There are, however, extraordinary cases of recurring pain about the heart, of terrible severity, the nature of which may be very obscure. The following is one of the most remarkable cases of this kind which I have met:

J. H. McC., aged forty-nine years, seen April 28, 1887, complaining of attacks of terrible substernal pain. He was a large, active man, weighing a hundred and ninety-five pounds. With the exception of a chancre at his fifteenth year, which was followed by an ulcer on the leg eight months afterward, and typhoid fever three years ago, his general health has been good.

Twelve years ago (1875) he consulted Dr. Weir Mitchell for the following symptoms: Every morning, about one o'clock, he was aroused from sleep with severe pains in the lower part of the chest, beneath the sternum. At first the attacks occurred every night, and then at intervals of four or five days. The pain was not like a cramp or a spasm, but dull and severe, intense enough to make him get up and walk the room. For nearly ten years the attacks made his life a burden. They ceased abruptly in 1885, since which date he has been quite well until March 28th of this year. He now has the attack every day about 1 A. M. He goes to bed

at ten o'clock and falls to sleep comfortably. Usually about 1 A. M., sometimes at three or four o'clock, he is aroused by a fixed pain beneath the sternum between the fourth and fifth costal cartilage. It is never transmitted down the arm; he is never doubled up with it, nor does he turn pale or sweat. He occasionally belches wind during the attack. The pain at times is so severe that he has to take an anæsthetic. Thus on the 29th he awoke at 3.30 A. M. in terrible agony, and had to take ether. He slept until after five o'clock, when the pain again came on and persisted until noon. He says he has noticed that it is often worse after the rest of Sunday. The examination was entirely negative. The arteries were not stiff; the heart's action was regular; the aortic second was not accentuated. He winced a little on deep pressure just above the ensiform cartilage. The urine was normal.

He had taken iodide of potassium previously without, he thought, any benefit. Considering, however, the history of syphilis, I insisted upon his taking it again. I heard from him on several occasions for a year or so, and there was not very much change in his condition. I have since lost track of him.

A case somewhat similar to this is reported by Dr. Randall, of Decatur, in the *Medical News* for March 11, 1893. The patient was a healthy man who had remarkable seizures of agonizing pain in an area twelve inches in diameter over the heart, which recurred nightly from August 1st to December 16th unless he remained awake and out of bed. The patient was a self-possessed, unimaginative man, and had never had similar attacks. The pain was sometimes greatest in the epigastrium, sometimes in the præcordium, and with it there were tingling and numbness in the arms, and a sense of suffocation. There was no dyspnoea or asthmatic breathing. The patient could avert the attack every night by vigilance. It is difficult to decide upon the nature of such cases.

The important elements in diagnosis are the sex, the presence of cardio-vascular disease, and the phenomena of the attack.

The extreme rarity of true angina in women is always to be borne in mind, even when the general features of the case are most suggestive. Such an instance, for example, is the following:

Mrs. R., aged forty-two years, seen October 25, 1894. She has always been a healthy woman, but has had much trouble and worry. Her husband had attacks of angina pectoris, and died a year ago of heart disease. Her mother died in an attack of angina pectoris three years ago. For nearly a year she had been unable to rest comfortably on her left side, and had been much troubled with pains about the heart, which were sometimes of great severity, and were then accompanied by a feeling of numbness in the left arm extending to the fingers. Neither diet nor exercise seemed to make any difference, and she never had dyspnoea. Sometimes the whole of the left side, including the neck, would feel stiff and sore. Though she had been free for a few days from the sensations of pain, she had not within the past year had a week of complete intermission. She had evidently worried very much about it,

\* Delivered to the Post-graduate Class, Johns Hopkins Hospital.



and dreaded consulting a physician, lest she should be told she had the disease of which her mother and husband had died.

The patient was a healthy looking woman. The pulse was quiet, without increase in the tension, and the arteries were not stiff. There were no signs of hypertrophy or dilatation of the heart; the sounds were normal. The urine had a specific gravity of 1.018, and was free from albumin and tube casts. I have seen this patient on several occasions during the past two years, and her condition has improved very much.

There are cases, too, in which hysterical angina occurs in women with aortic valve disease. The only instance of the kind which has come under my notice is the following:

Mrs. K., aged thirty-eight years, seen February 24, 1890. The patient was an unusually bright, able woman, who had for several years lived under a serious mental strain. She had severe rheumatism as a child, and she had been told by several physicians—among others the late Dr. Austin Flint and Dr. Da Costa—that she had heart disease. The first serious attack of pain about her heart was two years ago at a hotel, when she fainted. During the past three months she had had eight or ten attacks. They usually came on when she was worried or very anxious. She got cold; the pains began just under the left breast and shot into the arm and up the neck. During the attacks her physician said she had often been quite hysterical, tossing herself about, and talking in a very incoherent way. The apex beat of the heart was a little outside the normal position; the aortic second sound was intensified, and at midsternum, opposite the third costal cartilage and along the left border of the sternum, there was a soft diastolic murmur. The pulse was regular, a little jerky; the vessel wall was a little firmer than normal. When I saw her she was having pretty frequent attacks, and was very nervous and hysterical. After removal from her home surroundings, with rest and quiet, and a course of tonics, she improved very greatly. After my examination I made the following note: "Do the attacks represent true or hysterical angina? That there is a strong neurotic element is undoubted, but the presence of aortic insufficiency, a condition which had been recognized by several physicians some years ago, makes the diagnosis a little dubious." I have seen the patient at intervals during the past six years, and she has had no recurrences of the attacks, and has been in excellent health.

The extreme rarity of true angina in women must always be borne in mind, and also the infrequency of its association, as noted in Lecture II, with mitral-valve disease. Flushes, paræsthesiæ, and various nervous or hysterical manifestations, and particularly the vasodilator type of phenomena, suggest strongly pseudo-angina, even though a loud mitral murmur be present. I saw with Dr. Clark, of Kingston, Ontario, a very puzzling case of this kind, the notes of which I have unfortunately mislaid.

In men, while true angina may coexist with apparently normal cardiovascular condition, in a very large proportion of all cases there are signs of greatly heightened blood pressure, or of sclerosis of the arteries, with

a ringing metallic aortic second sound; sometimes only the signs of a weak heart. In men under the age of forty the existence of syphilis should be suspected, as a by no means inconsiderable number of cases result from an aortitis, causing great swelling of the intima and narrowing of the orifices of the coronaries.

In men, too, the question of tobacco has always to be considered, as recurring paroxysms of really maximum intensity may be due to persistent smoking or chewing.

In determining between a true and a false angina, the phenomena of the attack offer most valuable differential criteria. The character of the pain in pseudo-angina, while it may be very severe, rarely has the agonizing quality of true angina, and is seldom, if ever, associated with the sensation of impending death. Patients more often complain of a sense of fullness and distention in the heart. The seat of the pain may be in both identical, and I do not think that much stress can be laid on the point that in pseudo-angina the maximum pain is more over the heart and toward its apex, while in the organic disease the chief seat of the pain is toward the base of the heart and over the aorta. You must remember that in true angina the seat of the pain may be entirely away from the chest, and may be, as in Lord Clarendon's father, at the inner aspect of the arm, or about the wrist, or in rare instances confined to the side of the neck, or even to one testis. While in both forms the pain may radiate to the side of the neck and to the left arm, in pseudo-angina the associated nervous sensations are apt to be much more widespread. There may be numbness and tingling in both extremities, or prior to the onset there may be a feeling of pins and needles in the hands and feet. The vasomotor phenomena are apt to be much more pronounced in pseudo-angina. The attack may be preceded by flushes, by a sensation of great oppression in the back of the neck or head, and then before the onset of the cardiac pain, not with it or following it, there is coldness of the extremities and sometimes a pronounced tremulousness amounting to what is popularly called a nervous chill. Sweating, combined with the pallor, is not so common in pseudo-angina. The paroxysms of false angina rarely have great abruptness of onset, but are preceded by various nervous and hysterical features.

The attitude in angina pectoris vera is one of its most characteristic features. The patient rarely can stir from the spot in which he is attacked. In the hysterical and neurasthenic angina there is often great jactitation, seldom immobility. The patient tosses about on the bed with noisy exclamations of pain, or may walk the floor screaming loudly.

The duration of the attack in pseudo-angina is usually more prolonged, lasting perhaps an hour or more. As I have already mentioned, it occasionally happens that even in the true angina, as in Mr. Sumner's case, the patient is able to walk about, finding relief in moderate exercise during the attack.

And, lastly, among the important points of diagnosis are the circumstances which promote the attacks. In true angina the patient can nearly always fix upon some provocation, as muscular effort, mental irritation, an attack of indigestion; whereas in pseudo-angina the attacks are much more apt to occur spontaneously, and rarely are excited by effort.

It must be acknowledged that the diagnosis is not always so easy as you might suppose from any glib summary of differential signs; thus just the other day I was consulted by a practitioner from one of the large Western cities, in whose case the existence of certain well-pronounced coincident nervous phenomena seemed alone to clinch the question of diagnosis. The patient was aged about fifty, a strong man, of strong stock, who had been engaged in large general practice for more than twenty-five years. He had never had syphilis, and had been temperate in the use of alcohol and tobacco; somewhat intemperate in coffee. He had lived a life of a good deal of tension, but had been very well, with the exception of at intervals rheumatic and neuralgic pains. He had never had gout. Two years ago, after a long and tiring drive, he went out one evening to make a visit, and while at the patient's door had a very severe attack of pain about the apex of the heart, which lasted for a minute or two, and which frightened him very much. The next day at dinner he was seized again, but the pain was scarcely so intense; it was duller and more boring in character. He suffered all night, and in the morning had to take a hypodermic injection of morphine. He had no faintness, the circulation was not involved, and there was no sense of impending dissolution. He felt very weak and used up for nearly a week. He had no return whatever of the pain until last October. He had been working very hard, and had lost a great deal of rest. Then he had the pains at intervals, while he was driving, at the table, when walking, or in bed. They were never very severe, and did not interfere with his work. They were chiefly about the apex of the heart, not beneath the sternum. They radiated down the arms, particularly the left, but he has had pains in both arms as far as the wrists, with numbness, and on several occasions he has had pain and numbness in the left arm without the pain about the heart. These attacks persisted on and off all through the winter, until about two months ago. He then had an attack of influenza with fever, and since then he has had a great deal of nervous palpitation of the heart, particularly on emotion, or if his stomach is full. He does not appear ever to have had a severe agonizing attack with sweating and a sense of impending dissolution.

Certainly in a man of over fifty, though his heart was normal, and his arteries not specially sclerotic, and the pulse tension very little raised, such attacks were, to say the least, suggestive of true angina. But on going into his case more fully two circumstances developed, which were, I think, of much moment, in-

dicating probably that he was of a more neurotic temperament than he was willing to confess. Between three and four years ago, when overworked and worried, he had extraordinary attacks of slight spasm of the glottis, which would come on while he was taking food, or at any time if he was very excited. It would be relieved with a deep, noisy inspiration almost like child-crowling. These attacks passed away, and he has not had them since. But last summer his wife says that he had the most extraordinary attacks of spasm of the gullet, recurring at every meal for nearly six weeks. At the first attempt at swallowing, either of liquids or of solids, there would be a sudden interruption, which he describes as a sort of spasm of the gullet, and he had to wait several minutes for it to pass off before he could take another mouthful. This patient was very nervous and apprehensive that he had true angina, and yet I think the existence of well-marked oesophagismus and of laryngeal spasm three or four years ago are circumstances which suggest a diagnosis of pseudo-angina.

PROGNOSIS.—One of the most distinguishing features of true angina is a consciousness on the part of the patient, in his anguish of mind, that the very citadel of life has been approached. In a severe, long-continued paroxysm all desire of recovery may be absent in the dread lest he should have again to endure the agony. Subjects of the disease may truly be said to stand in jeopardy every hour, yet it is astonishing with what equanimity the affliction is endured. Charles Sumner said: "This treacherous disease produces in my mind a positive uncertainty when I go out of my house whether I shall ever enter it again a living man." The duration of the disorder is most uncertain; there are notable cases, such as John Hunter, in which the attacks have recurred at intervals for twenty or more years.

Recovery is quite possible, and there are instances in which the attacks disappear entirely. In June of last year, in consultation out of town about a case of heart disease, Dr. — mentioned to me his own case as one of exceptional interest. He was a man of fifty years of age, and had been in very active practice. Twenty years ago, he had been for nearly a year a terrible sufferer with angina. He was under the care of the late Dr. Donaldson, who regarded the attacks as genuine, as there was also well-marked aortic insufficiency. The patient has remained perfectly free for twenty years.

I saw in November, 1886, with Dr. J. William White, a naval officer, aged forty-six years, who had had severe attacks of angina associated with immobility and a sense of great *angor*. He was a powerfully built man, who had lived well and had taken a great deal of heavy exercise. The pulse tension was increased and the aortic second was accentuated. He had been a heavy smoker, but had not had syphilis. He had kept a very accurate account of the attacks, and he had between Oc-

tober 11, 1886, and August 11, 1887, two hundred and thirty-nine, most of them slight, but some of terrible severity. From the date mentioned to the present he has remained perfectly well, and attributes his recovery largely to the use of the iodide of potassium. He stopped smoking at the time of the paroxysms, but has resumed it since without any detriment.

In a disease so notoriously uncertain as true angina, the prognosis must necessarily be most guarded. Fortunately, as I have already said, the character of the attack is such that the patient is very well aware of the extreme hazard of his state. Of the important elements in prognosis, the following are to be considered:

The frequency and severity of the attacks. Recurrence at short intervals of paroxysms of great severity, induced by slight exertion, is of ill omen, particularly if with them there are marked cardiac arrhythmia and signs of dilatation.

The existence of valvular disease does not in itself materially aggravate the prognosis. A large majority of the worst cases of angina show no signs of heart lesions. The existence of aortic disease renders the patient, of course, much more liable to myocardial changes and dilatation and the other consequences of progressive failure of the muscular power. The following is a remarkable instance of good health, even vigor, for years with aortic-valve disease and angina of ten years' duration:

Mr. X., aged fifty-one years, Holbrook, Maryland, consulted me June 10, 1895. His general health had always been good. So long as he could remember he had had heart trouble; he had been short of breath on exertion, and had been conscious, as he expressed it, of a sort of grinding in his chest. When a child he had attacks of extensive blotches on the skin with gastrointestinal pain (Henoch's purpura). He had rheumatism when twenty-two, but no swelling or redness of the joints. With care he has been able to get about and has lived very comfortably, though he has never been able to do heavy work.

He looked pale, a little thin, and had a suggestive cardiac *facies*; there were no signs of any swelling of the joints. There was an inguinal hernia on the right side. The apex beat was in the fifth and sixth spaces just outside the nipple line. There was a large area of cardiac impulse. There was a loud systolic murmur at the apex region, propagated to axilla and loudly along pectoral border. It increased in intensity toward the left margin of sternum. In the whole apex region there was almost silence in diastole, perhaps a faint rumble, and at the apex there was a slight systolic shock. The systolic murmur became very loud over the sternum, and attained a maximum intensity at the second right costal cartilage, where it was rough, harsh, vibratory, and was propagated with great intensity into the vessels. Along the left margin of sternum and as low as the ensiform cartilage there was an extremely soft diastolic murmur. There was no pulsation to be felt in the sternal notch. The pulsation in the superficial arteries was visible; the vessels were a little stiff. The pulse was 100, not collapsing, of medium volume, and gave one the impression of effort.

He had his first attack of angina ten years ago, coming from Chicago. Two years subsequently he had another attack, and had to have morphine. He has had six or seven attacks altogether, the last one seven days ago as he was getting out of bed. On each occasion there has been a single attack; morphine alone controls them.

Ten years ago he evidently had an attack of cardiac breakdown, with great shortness of breath. Subsequently, for three years, he took ten drops of the tincture of digitalis three times a day, without missing, he thinks, a single dose. During the attack he feels very badly; there is immobility and agonizing pain in the chest, he feels as if he was going to die, and he sweats profusely.

A word or two upon an ethical problem which is often very perplexing—viz., What is your duty in the matter of telling a patient that he is probably the subject of an incurable disease? I can give you no hard-and-fast rule; the temperament of the individual himself, his associations and responsibilities, your own convictions as to the seriousness of the condition—all these must be carefully weighed. The question is somewhat theoretical, since in reality the necessity does not often arise. The announcement has already been made, for no man suffers the anguish of a severe paroxysm of angina without a consciousness of the nearness of the Angel of Death. We are sometimes, I confess, placed in positions of the utmost delicacy, since a man may have not the slightest intimation of his parlous state, and you may become aware of the urgent necessity that he should make proper arrangements to protect his wife and children. In such a case a quiet hint as to the uncertainty of the outlook in heart and artery disease may be enough to set him a-thinking; or, in the case of an "even-balanced soul," the whole question may be discussed frankly. One thing is certain: it is not for you to don the black cap, and, assuming the judicial function, take hope from any patient—"hope that comes to all"—and we may dwell with advantage on the aspects of John Hunter's case rather than on those of Thomas Arnold.

(To be concluded.)

## THE PRESENT NEEDS AND FUTURE DEMANDS OF ORTHOPÆDIC SURGERY.

A PORTION OF AN ADDRESS DELIVERED BEFORE THE TRUSTEES OF THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL UPON THE OCCASION OF THEIR TWENTY-NINTH ANNUAL MEETING.

Held November 16, 1896.

By NEWTON M. SHAFFER, M.D.

GENTLEMEN: As I rise to address you this evening the new hospital building approaches completion. Recently remodeled and much enlarged, it is fully equipped in every important respect for modern orthopædic work.

A year ago we were deeply in debt. The ordinary dwelling house adjoining your property on the east, unfitted for hospital use, had been purchased. We were



without means to erect a suitable hospital structure in its place. To-day, through the kindness of friends, a new fireproof hospital building, as yet not wholly paid for, stands in the place of the property which we purchased. Aided by this additional building, we find that our capacity for hospital patients has been increased one third; we have made various changes in the Sloane pavilion and in the older hospital structure; an elevator has been introduced; we have a complete Röntgen-ray apparatus, a modern operating room has been added to our equipment, and the three original buildings comprising our now consolidated hospital represent all that the most earnest critic could demand in orthopædic work. It matters but little where the examination commences, whether in the shop, where the most intricate and delicate apparatus for the treatment of deformity can be made; or in the domestic department, where all the modern improvements have been introduced, the progress upward from story to story develops a careful economy of space, with a liberal allotment of room for both the dispensary and hospital.

The dispensary is especially adapted to the needs of the outdoor patients, who crowd the reception and treatment rooms daily. It is on this floor that the X-ray room has been placed, and it is here also that the interesting work of the neurological department has been located. Nearly the whole first floor of the three buildings comprising our remodeled hospital is given up to dispensary work.

On the second floor are located the rooms for the administrative work of the hospital, the children's dining room, and the operating room—the two latter being rooms that would attract attention in any hospital.

Six wards, accommodating seventy-five patients, occupy the third and fourth floors, and everything has been done to make these wards bright, attractive, and aseptic, while the problem of ventilation has received its full share of attention.

The fifth story contains the children's play room, the roof garden, and rooms for nurses, while, at a remote point and unconnected with the rest of the house, and with an entrance from an open roof only, there is an isolated ward with suitable sanitary adjuncts, for suspected acute infectious and contagious diseases.

This, in brief, is a description of your completed building. The more one studies the arrangement of the various parts of the building and notices how completely the compact whole represents the needs of a modern and progressive orthopædic hospital, the more the friends of your work must be satisfied.

Modern orthopædic work demands all that you have given your medical staff. The theories of a few years ago regarding the causation of tuberculosis have become demonstrated facts. The light which modern bacteriological investigation has thrown on the various morbid processes which enter into the question of the production of certain chronic deformities is no less important

to the orthopædic than to the general surgeon. In treating these deformities from the operative standpoint, the orthopædic surgeon needs the same training as the general surgeon, and the same aseptic and general surgical care should be exercised, for example, in opening a simple abscess connected with a diseased joint as in operating for an acute appendicitis. But while the general surgeon covers a wide operative field, the orthopædic surgeon finds, in his work, a more limited operative field. The latter, however, should be no less a surgeon because he operates in those cases only which require special orthopædic care after operation. To extend the operative field of orthopædy beyond this point is to break down the only barrier between it and general surgery, and the effect is to belittle true orthopædic surgery and to emphasize the impression, only too pronounced that the tendency of the orthopædic surgeons of to-day is to make orthopædy a stepping stone to general surgery. The effect of this on legitimate orthopædic surgery can be imagined. If it should so happen that the present views of some of those who are known as orthopædic surgeons should prevail, there will be no orthopædic surgery, except as it may exist as an adjunct to general surgical practice, and the real foundation of orthopædy—that is, the study of mechanico-therapy—will be relegated to the instrument makers from whom legitimate orthopædic surgery rescued it not many years ago.

Your institution stands as the exponent of legitimate orthopædic practice. Until recently it has been hampered, by the lack of proper facilities, in the full performance of its work. During this time it has striven patiently and persistently to develop the much-neglected side of deformity surgery—namely, the unattractive mechanical side. But unattractive as is this part of the work to the average orthopædic or general surgeon, it is the important side, and it is the side of the work upon which the success of the treatment of a case of deformity depends. It seems almost useless for me to say that the same attention will be given to this part of the work in your institution in the future as long as I have the honor of being its surgeon-in-chief, and I dare to hope that my successor, whoever he may be, will hold the same views. The addition of an operating room simply enables us to treat our patients from both an operative and mechanical standpoint. It does not mean that the operative side will be developed at the expense of the mechanical work. It does not mean that there is any danger of your hospital being known as a general hospital, where all, or even many, of the operations of surgery are to be performed. If it becomes necessary for us to operate to overcome a deformity, and the patient requires special orthopædic care after operation, we propose to operate, but all other patients requiring surgical care will be referred to some general hospital, where they belong.

The future of orthopædic surgery depends upon the

deliberate study and development of the mechanical aspect of the work. There will always be operative surgeons who can perform the cutting operations which are sometimes necessary to relieve chronic deformity. On the other hand, there is to-day a scarcity of surgeons who understand, or who have been taught to apply, the principles underlying the mechanical correction of deformity. The student of mechanico-therapy needs encouragement, and the medical profession should understand more fully that it is only by a conscientious and prolonged study of both the operative and mechanical work that a fully equipped orthopædic surgeon can be produced. It is taken for granted even in our best medical colleges that a student is a natural mechanician—born to devise and apply apparatus in the treatment of chronic deformity—and yet I venture to say that there is no more delicate or difficult problem in the whole field of surgery.

Who will be the first one to endow a chair of mechanico-therapy, associated with a clinical professorship of orthopædic surgery, in one of our medical schools?

To apply an apparatus, already made, to a patient, to give a description of Smith's hip splint, or Jones's spinal brace, or Robinson's clubfoot shoe, or to apply a plaster-of-Paris splint in presence of a class of students, is like giving a simple verbal description of the quadriceps extensor femoris muscle to one who has never dissected a human body. Actual training in mechanical work is as necessary to a successful student of orthopædy as is dissection to an anatomist, or as clinical study and laboratory work are to the successful development of the well-trained medical man. As the old style of giving didactic lectures in medical schools has given way to more practical and scientific methods of instruction, so, in the future, the present methods of teaching orthopædic surgery will be re-enforced by practical work in the mechanical room. The perfunctory application of an apparatus before a class will give way to a description of the fundamental principles underlying the mechanical, anatomical, and surgical problems involved. The student will then be obliged to apply these principles under the instruction of the professor—and the student will thus gain a real knowledge of the subject.

When one sees, in the various instrument makers' shops, the many crude and incorrectly constructed instruments for the treatment of chronic deformity which are, literally, like sugar or salt, in the market, one can realize the embarrassment of the average medical man in his effort to cope with the treatment of a patient with a chronic or progressive deformity. His guide is the profusely illustrated catalogue of some enterprising instrument maker. His knowledge—for there are no textbooks on the mechanico-therapy of orthopædic surgery—is limited and his failures are many. The existing works on orthopædic surgery do not satisfactorily cover

this field. Whose is the fault? It lies wholly with those who teach, and it will be thus until the subject of mechanico-therapy, as applied to the problems involved in orthopædic surgery, is made an obligatory course in the medical colleges.

So far as is possible this work has been done in your institution in the annual course of lectures which have been given under your auspices for the past twenty years. It has been further amplified by throwing open the doors of the institution to those who wish to study the mechanical principles involved in the treatment of deformity, and many have availed themselves of this privilege. There are at present three or four surgeons from various distant cities who are following the work of the dispensary and hospital. Our work in this direction might easily be increased if it were more generally known that we always welcome those who wish to study our work and methods.

From causes entirely beyond our control the Morgan operating room was not completed until early in the summer. We had used the room only once when orders came to remove all the hospital inmates to the country, in anticipation of the extensive changes in the building—which have since been made. On this account, and also on account of the flying mortar dust arising from the demolition of the old building, it was deemed best to keep the operating room closed all summer. The furniture, etc., which was removed, has been replaced and the room is now in order and operative work has already begun.

It is due to the generosity of one of our trustees that we have a complete Röntgen-ray apparatus as a part of our regular dispensary and hospital work. Its use opens a large field for scientific work and study. It will serve to throw much light on that which has hitherto been obscure and difficult. In all the diseases and deformities of the major articulations and long bones, and also in other respects, its assistance in forming a picture of the conditions will be invaluable—and the entire medical staff desire to thank the gentleman who made this valuable present to the institution. It is with your approval that I announce to the medical profession that at certain hours and under certain conditions the X-ray apparatus will be placed at their disposal. [The remainder of the address was devoted to a statistical statement of the work of the institution during the past year.]

**A Conference on Leprosy.**—There will be held in Berlin in October, 1897, a conference of a very limited number of renowned leprologists and delegates of the different governments to discuss the slow but sure increase of leprosy and the measures to oppose to this plague. The conference was fixed for the month of March, 1897, but the scientific expedition of Professor Robert Koch to South Africa (for the British government) has made a delay of the date necessary. The members of the organizing committee are Dr. Armauer Hansen, of Bergen, Norway; Dr. Robert Koch and Dr. O. Lassar, of Berlin; and Dr. Edward Ehlers, of Copenhagen (secretary).

## Original Communications.

# INTRAVENOUS TRANSFUSION OF SALINE SOLUTION WITH A NEW APPARATUS.

By ELY VAN DE WARKER, M. D.,  
SYRACUSE, N. Y.

THE intravenous transfusion of saline solutions is such a simple operation that ordinarily no special apparatus is necessary. Every surgeon knows, however, that it is sometimes these very simple procedures that are difficult. In a case of extreme collapse, when the veins have no existence, physiologically speaking, and exist only anatomically as collapsed tubes, without radial pulse—when no amount of cording will cause the empty vein to fill, and when a lost minute may be measured by a lost life—it is very convenient to have a simple apparatus at hand that will expedite even so simple an operation. In these extreme cases I believe it is necessary to transfuse into the veins; subcutaneous transfusion is too slow with the vital forces so nearly suspended. Saline rectal enemas, a method of great value, for the same reason is too slow to furnish the necessary stimulus to a heart nearly inert for the need of a fluid to act upon. The apparatus here figured is a composite affair that was gradually put together from time to time as the need of transfusion occurred, until it reached its present perfected form.

While nearly every surgeon has had occasion to test the merits of saline transfusion, I doubt if any one has had the satisfaction of demonstrating its value as a lifesaver more thoroughly than I have had. With the object of inducing some one who has never tried it to be prepared to use it with a strong reliance upon its certainty of action, I will narrate briefly the following cases:

CASE I.—Miss M., of Irish nativity, aged forty-three years, large ovarian cyst of several years' duration, had suffered no unpleasant symptoms other than those due to abdominal distention. While nursing a sick relative, which caused very unusual exertion, she was suddenly attacked with severe abdominal pain and tenderness, with chills and subsequent fever. I saw her at the home of her relative about one week after the outbreak. The abdomen was of a dimension equal to a pregnancy at term, very tender on palpation, with frequent attacks of pain. Temperature, 103°; pulse, 110. I advised immediate operation, but it was nearly a month after my visit that she was admitted to the Central New York Hospital for Women for operation. During that interval the symptoms had gradually augmented, and at the time of her admission she was in a deplorable condition. She was greatly emaciated and too weak to walk. Section showed a monocyst almost universally adherent. The contents of the cyst were about twenty pounds of extremely fetid pus. The adhesions were easily broken down, and the operation in particular difficult, lasting about forty minutes to the completion of the toilet.

She was taken off the table in fair condition. It was soon noticed by the nurse that she was growing cold and the pulse racing, and in a few minutes she appeared to be in a dying condition—pulseless, gasping respiration of the dying, with complete surface anaesthesia. Intravenous transfusion of a one-per-cent. salt solution at 105° was at once made, using about twenty ounces of fluid. In this case it was very difficult to find and enter a vein, so complete was the collapse of the vessel. My trocar and cannula greatly expedited the operation. The result of transfusion was prompt and lasting and the patient's life was saved. The operation was very nearly bloodless, the adhesions showing no disposition to bleed as they were broken up. The conditions leading to collapse in this case were interesting, as demonstrating that it is not blood loss previous to, during, or subsequent to operation, but that any condition equivalent to blood loss will precipitate the moment of collapse. Here high temperature, arrested nutrition, and blood poisoning were those equivalent conditions.

CASE II.—A woman, aged thirty years, married, demiblonde, number of children unknown. In the service of one of the staff of the Woman's and Children's Hospital of Syracuse. Abdominal section reached a right pelvic hæmatoma due to what was supposed to be an extra-uterine pregnancy. An old clot was turned out of the pelvis equivalent to about a pound in weight. It was dense and tarlike in color, and at the time the lesion occurred, must have represented a quart, or possibly more, of blood. The phlegmon developed about six weeks previous to the operation, but its history was obscure. The loss of blood due to the operation was small. The patient was upon the table about forty minutes. After being put to bed in a fair condition of pulse, she surprised us by passing quickly into extreme collapse. She was aligid, with complete surface anaesthesia, eye and other reflexes abolished, pulseless, and the veins completely collapsed. The respiration was gasping and shallow. At the request of the operator I performed transfusion. I was about to abandon the operation on account of the impending death, but as she was yet gasping and the trocar nearly in the vein, I persevered, and in less than a minute the solution was being transfused. The effect was rapid, and the patient passed from a condition of inevitable death to one of comparative safety in about three hours. She made an uneventful recovery.

CASE III.—As anæmic shock is not the only form with which the surgeon has to contend, it is well to refer briefly to the following case with a view to contrast:

Miss —, aged twenty-one years, single, had always been a delicate girl. At seventeen years she had not yet menstruated. Her physician detected a pelvic mass extending like a ridge from side to side. As she was bedfast and rapidly failing, laparotomy was advised and consented to. She was admitted into the Woman's and Children's Hospital of Syracuse. The mass was made up of the lower border of the omentum fusing into the right tube and ovary, all of which were removed. She made a prompt recovery, and improved very considerably in general health. The pelvic condition was regarded as tubercular, although I am not sure that it was verified by the microscope. Four years after she was readmitted with symptoms of intestinal obstruction. At the request of her physician, a colleague on the staff, I did the operation. The intestines, large and small, were greatly distended. At first it was supposed that the obstruction was at the sigmoid, but



in the Trendelenburg position it was seen that what appeared to be a constricted part of the colon was a cyst of tubal origin which was tied off. At this point a serious accident occurred. The intestines, which had been retained in the abdominal cavity only by great care and watchfulness, through the momentary inattention of the assistant were allowed to escape. As usual in such a case, the intestines were reduced with extreme difficulty and loss of time. They were at last returned and the search for the obstruction resumed. It was found not far from the ileo-cæcal region, and consisted of a globular mass surrounding and obliterating the intestine. It was found necessary to resect the intestine at a healthy portion and insert a Murphy button. The operation lasted about an hour. She was put to bed in fair condition; pulse about 120; respiration, 18; temperature, 99.5°. This was at 3 P. M. While at dinner in the evening I was called to the hospital by my colleague in consultation in the case. I saw her at 7 P. M. Temperature, 104°; respiration, 30; pulse racing. At 8.30 P. M., pulseless at the wrist; temperature, 104.6°; respiration, Cheyne-Stokes. At the request of my colleague I made transfusion in the hope that an increased volume of fluid would stimulate the fast failing heart. Owing to the carelessness of a nurse the amount transfused is not known. It had no effect upon the circulation. She died at 10 P. M. with a temperature of 106°.

The case is given somewhat in detail as it demonstrates in a striking manner the limits of saline-solution transfusion. The three cases serve to define three forms of shock. First, we find shock due to inanition, fever, and chronic sepsis, precipitated by operation. Second, shock due to blood loss prior to operation, and both forms to amend to transfusion. In the third, the fatal condition, or shock, comes from suspension of inhibitory nerve centres that functionally control the heart and heat centres. The train of conditions that led up to this is clear when we recall the eventration, and all that it implied to the nervous system. The entire nervous congregation of organic life was roused into fatal overstimulation through the irritation of the greater and lesser splanchnic nerves, and the brain and spinal centres implicated through the great sympathetic, quickly resulting in suspension of inhibitory centres. Thus, while saline transfusion was able to supply the deficiency in loss of circulating fluid, it was unable to supply what was necessary in the other. Clinically the two types stand in marked contrast: In the first, advancing algidity; in the second, augmenting pyrexia. In the first, surface anaesthesia increases as surface heat is lost; in the second, only as the brain ceases to functionate. In the first, consciousness is lost in the same ratio as the pulse is lost and the heart's action fails; in the second, rather with the increasing pyrexia. In the first, torpor from the beginning, intensifying cold, death. In the second, restlessness, intensifying heat, death. One is as much deserving the name of shock as the other, and we have no other name for either. As intravenous transfusion has now a status as a life-saving operation beyond all controversy, it is well to be able

to define just in which type of shock we may expect these results, and as a contribution to this knowledge I have ventured to overstep the limits of the paper and introduce the third case.

In several instances in which the apparatus has been exhibited before societies, several gentlemen suggested that just as prompt results could be gained from rectal or subcutaneous injection. I have no doubt that is so in cases in which function is not too seriously depressed. But in cases in which death is near and time a serious matter, I would not advise any to trust to it. I have had some experience that has practically taught me this lesson. I have found rectal hot saline injections of great value in supplementing intravenous transfusion when the radial pulse is re-established and the reaction appears to drag; then the injection appears to augment the effect of the transfusion. When reaction is established to this degree, the rectum in my experience offers as favorable a channel as the subcutaneous route, and leaves no painful sequelæ.

The physiological study of intravenous injections has begun to awaken keen interest. MM. Bosc and Vedel, in the *Journal des praticiens*, July, 1896, have reached the following conclusions from their study of the subject: Large intravenous transfusions are not toxic even when transfused as rapidly as forty to eighty cubic centimetres a minute. These injections produce an abundant diuresis in half an hour after the transfusion. While this is, no doubt, true in physiological experiments, I have not observed it in cases of extreme collapse in the human subject. There is no elevation of blood pressure and no albuminuria, but there is increased heart action and an elevation of the central and peripheral temperature—febrile reaction. They quote Mayet that in the compound saline solution—chloride and sulphate of sodium—the sulphate is of no value and should be avoided, as it affects the blood globules, although the authors say there is no difference between the effects of the two solutions. Fasting animals appear to be more susceptible to large injections, but even when apparent death results the animals quickly recover. In these experiments it was shown that the physiological effects were not in proportion to the temperature of the solution and the rapidity with which the injection was made. The authors recommend a simple saline solution, one hundred and five grains of sodium chloride to thirty ounces of water to be the preferable proportion. In the hasty approximation of the operating room, a teaspoonful to a quart of water is a good working formula.

In the employment of the intravenous injections after the hæmorrhage of typhoid fever—and it ought always to be used when collapse threatens—it has recently been shown that the beneficial effect is not confined to merely increasing the volume of the circulating blood. There is a far-reaching and profound effect that can not be measured in this mechanical way. M.

Claissé, in the *Comptes rendus de la Société de biologie*, 1896, has made his study upon the blood from the fact that in many infectious diseases increased leucocytosis is a constant attendant. "In a case generalized purulent streptococcus infection an intravenous injection of fifteen hundred grammes of saline solution was followed in an hour and a half by a rise of temperature from 102.9° to 105.8°, while the number of red blood-globules to the cubic millimetre was reduced from 3,968,000 to 3,596,000, and the number of white blood-corpuscles from 13,547 to 7,804. In the course of three hours the temperature had declined to 98.6°. In the case of an old man of sixty-four years with a diffuse phlegmon of the arm, a subcutaneous injection of a litre of saline solution was followed by a diminution in the number of red blood-corpuscles from 3,565,000 to 3,255,000, and of the colorless corpuscles from 26,660 to 11,346. In a case of profound puerperal infection an intravenous injection was immediately followed by an alteration in the relation between the red and colorless blood-corpuscles—1 to 228 to 1 to 344." In the comment of the *Medical Record*, from which this extract is taken, it is pointed out that the depression of temperature, diminished leucocytes, and amendment of the symptoms of infection with a status of reaction are similar to those following the injection of antitoxine in diphtheria. "A splendid field for research is thus opened up, and one that possibly will render the animal serums useless in the treatment of specific infections." I am strongly of the opinion that in view of the enormous renal stimulation following intravenous injections of saline solutions, and the marked kidney implication in diphtheria, together with the profound effect of the injection upon the corpuscular elements of the blood, this will prove an accepted treatment of diphtheria in the near future. In typhoid fever, in view of this report by Claissé, the saline transfusion has a double indication in hæmorrhagic cases. In puerperal infection I shall certainly try it. In cases of the nearly functionless kidneys of eclampsia and with the poison-laden blood it is positively indicated, and, I believe, has already been tried, but I have lost the reference.

From this brief abstract of what has already been accomplished in the therapeutics of saline solutions transfused directly or indirectly into the blood, it is evident that its usefulness in the future may be broadened far beyond the expectations of those who have heretofore limited its use to the treatment of shock or hæmorrhage. In fact, to the physician, rather than to the surgeon, will we look for this more important demonstration of its utility. Simple as the operation of intravenous transfusion may be, yet an apparatus that renders it easy to perform, aseptic and accurate in operation, will contribute an important element to this more extended employment of the method. To the physician who is but seldom called upon to make any surgical operation, the little apparatus here figured will prove of great usefulness.

The apparatus consists, first, of a glass container large enough to hold from three pints to two quarts of solution (Fig. 1), fitted with a sufficient length of pure gum tubing given off from the bottom of the container. In the figure the tubing is represented as con-

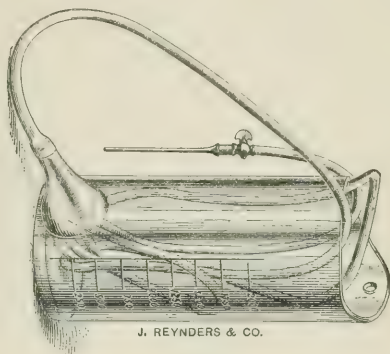


FIG. 1.

nected with the stopcock C, Fig. 2, with the cannula D, Fig. 2 attached, and in the condition in which it is when in use, the cannula inserted in the vein and the stopcock open. The glass has a scale of ounces etched into its side, so that the quantity of fluid transfused at any stage of the operation may be readily ascertained. The second part of the apparatus (Fig. 2) consists of a cannula D, the trocar B, and the stopcock C. One

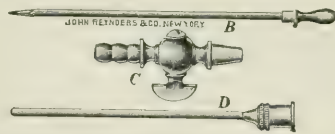


FIG. 2.

end of the cock is corrugated so as to be firmly held by the distal end of the tubing. The other end of the cock, as seen in the figure, is slightly tapered so as to slip into the head of the cannula, which is beveled to correspond, so that when connected with the cannula an airtight taper joint is formed. The trocar B has a head sufficiently large to be easily grasped by the fingers and withdrawn when the cannula is inserted into the vein.

The operation is done by the use of this apparatus as follows: After the vein is exposed, the only instrument not here figured is a small mouse-tooth forceps to pick up the vessel, which is quite necessary; but any small forceps will serve the purpose. The container has been filled and the stopcock connected with the tubing is held by an assistant. The cannula and trocar together are inserted into the vein, which is held up by the forceps, so as to offer a slight shoulder to the sharp point of the trocar which is thrust into the lumen

of the vein, being careful not to transfix. The stopcock is now opened, and the solution allowed to escape until the tubing is thoroughly warmed and the solution discharges at a proper temperature. You are now ready to withdraw the trocar and thus open the cannula, through which the blood flows more or less freely. The stopcock, still open and the solution discharging, is at once connected with the cannula by the taper joint—simply thrusting the two together. It is thus seen that the two currents, one of blood from the cannula and the other of saline solution through the cock, are joined without the possibility of the entrance of air. The flow of solution is regulated by the cock as well as by the height at which the container is held above the point of delivery. In the case of collapsed veins after a very exhausting hemorrhage or extreme shock, no blood will escape from the cannula after the trocar is withdrawn. Fig. 2 represents that part of the instrument somewhat shorter than the actual length and about half the diameter.

#### A CASE OF

### INOPERABLE SARCOMA OF THE NECK

TREATED BY INJECTION OF  
THE MIXED TOXINES OF STREPTOCOCCUS ERYSIPELATUS  
AND BACILLUS PRODIGIOSUS.

By HENRY L. SHIVELY, M.D.,

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THE publication in the *American Journal of the Medical Sciences* for May, 1893, of a paper by Dr. W. B. Coley, entitled *The Treatment of Malignant Tumors by Repeated Inoculations of Erysipelas, with a Report of Ten Original Cases*, aroused the hope that an important step had been taken toward a successful plan of treatment for inoperable cases of carcinoma and sarcoma. Whoever has watched the progress of malignant disease after repeated operations, each successive operation more extensive and more mutilating and only to be followed by inevitable recurrence, must have felt in duty bound to make a trial of any method which promised better results. The further work of Dr. Coley was followed with interest, and, with the reports of additional cases and improved methods of using the erysipelas toxines, together with corroboration of his results in the experience of other observers, the new treatment seemed to have secured a fair claim to recognition and further trial. The adverse report, however, of the committee of the New York Surgical Society (*Annals of Surgery*, July, 1896), and the recent address in surgery before the American Medical Association by Dr. Nicholas Senn, in which the distinguished surgeon declared "the treatment of inoperable sarcoma by injection of the sterilized toxines of the streptococcus of erysipelas and the *Bacillus prodigiosus* had not accomplished the results expected," will certainly discourage

the rank and file of the profession from further trial in this direction.

The publication of the following case, which was first seen by the writer on March 7, 1895, may therefore not be untimely:

William F. S., aged thirty-five years, a butcher by occupation, has been a moderate drinker for ten years. He denies venereal disease, and there is no morbid family or personal history. He was in his usual health until the middle of December, 1894, when he observed for the first time a swelling of the neck on the right side below the ear. He thinks he may have hurt his neck in carrying heavy sides of beef on his shoulder. The lump became tender and painful, gradually increased in size, and the pain grew more severe, radiating over the entire corresponding side of the head. The patient began to lose flesh and strength, his appetite failed, and he could not sleep on account of the pain. Treatment gave him only temporary relief. For four weeks he has had difficulty in taking solid food, the dysphagia has increased, and for the past three days deglutition of liquids even has been embarrassed. In the past week his voice has become altered, phonation is thick and oppressed, and he expectorates a large quantity of thin, blood-stained, frothy mucus. He took to his bed February 20th. On physical examination the patient is poorly nourished and anæmic. The heart and lungs appear normal. Behind the angle of the right jaw there presents in the tissues of the neck a rounded tumor four inches long and three wide, the long axis corresponding to that of the neck. The tumor is immovable and firm in consistence, tender on palpation; the overlying skin tense, but not adherent. The region of the right tonsil and adjacent soft palate and pharynx are occupied by a smooth, bulging mass over which the mucous membrane is injected and hyperæmic. The right nostril is partially occluded and discharges a glairy, blood-stained secretion. The right pupil is smaller than the left. The glands of the neck do not appear to be enlarged, but the entire right side of the face is slightly swollen.

A clinical diagnosis of sarcoma was made, and, as the situation and extensive involvement of neighboring parts clearly precluded the possibility of successful operation, the patient was placed on tonic and symptomatic treatment. As was expected, the tumor continued to increase in size, the rapid encroachment upon the pharynx resulted in ever-increasing difficulty in swallowing, and the patient appeared to be rapidly failing from inanition and cachexia. The case seemed to be a promising one for the toxine treatment, and Dr. W. B. Coley was called in consultation. A "core" section of the growth was removed under cocaine and was examined in the pathological laboratory of the Cancer Hospital. The microscope showed it to be a typical small round-celled sarcoma, and as such was considered especially favorable for the treatment proposed. A supply of the mixed toxines, sterilized and unfiltered, of erysipelas and *Bacillus prodigiosus* was obtained, and on April 8th, at 5 p.m., the patient was given his first injection of half a minim in the substance of the tumor. About an hour after the injection he experienced a slight chilly sensation, but no distinct rigor, and at seven o'clock his temperature was 101° F.

April 9th.—At 3.15 p.m. an injection of three quarters of a minim was given with the usual antiseptic



precautions. At 3.55 the patient had a severe chill which lasted for ten minutes. At 4.30 p. m. the temperature was 99.5° F., and in fifteen minutes rose to 101.5°. There was some uneasiness of the stomach, but otherwise the patient was doing well, and after staying with him for half an hour I went away. At 5.45 I was sent for in haste as the patient was said to be "choking." Upon my arrival I found that on sitting up to expectorate he had suddenly become faint and had fallen back unconscious. He had rallied somewhat, but was soon seized with a facial spasm, the corners of the mouth twitched, his eyes turned up until scarcely more than their whites were visible, he relapsed into unconsciousness, and stopped breathing. His face was livid, and, as there was no indication of a spontaneous return of breathing, artificial respiration was begun. The pulse throughout was fairly good, somewhat weak, but at no time exceeded 120. The surface of his body was cold and bathed in a profuse clammy perspiration. The pupils were insensitive to light, there was decided trismus, and at times general muscular rigidity. There was absolutely no respiratory movement, and when artificial respiration was suspended the patient would relapse and cease to breathe. He was freely stimulated with whisky and hot water *per rectum*, and hypodermic injections of aromatic spirits of ammonia, whisky, and one twenty-fifth of a grain of nitrate of strychnine. Warmth was applied by means of hot blankets and water bottles. Under this treatment he would partially revive and breathe better, but several times he relapsed and had every appearance of being in *extremis*. It was nearly four hours before he was fully restored and out of danger. Temperature during this period was normal in the axilla.

10th.—The patient is somewhat prostrated, but otherwise shows no bad effects from the untoward symptoms of yesterday. Temperature normal. Injections are deferred for the present.

11th.—Patient feels quite bright and comfortable to-day. He thinks that he can swallow better than for some time past. The skin appears to be less tense over the tumor and his wife fancies that she can see some diminution in its size.

12th.—There certainly has been an amelioration of the symptoms; the tumor is perceptibly smaller and the patient is free from pain. He has been receiving two drachms of a solution of morphine, a grain to the ounce, every four hours. This is discontinued. The patient and his friends feel much encouraged in spite of the alarming symptoms following the second injection, and desire to have the toxines continued. As a forlorn hope and with some misgivings the treatment is renewed, and at 7.30 p. m. he was given another injection of a third of a minim, which was followed in half an hour by a severe chill which lasted for twenty-five minutes. At 10 p. m. he was fairly comfortable and temperature was normal.

13th.—Patient's condition is much improved, his voice is much clearer, pain has entirely disappeared from head and neck. The right side of the face is no longer swollen and the edema of the right eyelids has subsided. The pupils are no longer unequal. For the first time in two weeks the patient has swallowed solid food. The tumor measures to-day but two inches and three quarters in its long axis by two inches in its transverse diameter.

14th.—On account of indiscretion in eating too much yesterday patient's stomach is irritable, and for this reason injection is omitted.

15th.—Patient swallows without any difficulty; ate a pigeon to-day, and sat up for three quarters of an hour. He slept well all last night. His color is much improved and his voice is quite natural. The remarkable diminution in the tumor continues; its superficial measurements are two inches and a half by an inch and three quarters. The patient is very cheerful, and the entire aspect of the case seems changed. A third of a minim was injected at 7.30 p. m., followed by the usual chill and elevation of temperature.

16th.—Patient sat up for an hour to-day and he continues to do well. It is difficult to restrain his craving for solid food, which his stomach is too weak to bear well. A stomachic tonic is prescribed.

17th.—One third of a minim is injected to-day, followed by the customary reaction. Patient is improving in nutrition and strength.

20th.—The tumor appears to be about stationary in spite of daily injections of one third of a minim. To-day there was no reaction following administration of the toxines.

21st.—There appears to be a considerable increase in the size of the growth, and it is determined to increase the amount of the injection. After half a minim there was a slight chilly sensation.

22d.—The tumor has rapidly grown larger and is now only about a third less than its size when treatment was begun. A dose slightly more than half a minim is followed by but little reaction.

23d.—Patient can not swallow so well, and begins to look cachectic again. In spite of daily injections the tumor does not decrease, but rather grows larger.

24th.—Nearly a minim was injected to-day and was followed by a chill.

25th.—A good chill and sharp reaction followed the administration of a full minim to-day.

26th.—After one minim patient had elevation of temperature but no chill.

27th.—The tumor now measures five by four inches—a decided increase over its size at the time of beginning treatment. Swallowing is again very difficult, and patient's general condition is poor. No chill followed the injection of one minim and a quarter to-day. It is now apparent that no reduction in the size of the tumor is to be expected when no reaction follows the injection of the toxines.

28th.—A hard chill followed three quarters of an hour after the injection of a minim and a half to-day.

30th.—The amount of the injection was increased to one minim and three quarters and was followed by a chill.

May 1st.—Some improvement is to be observed again in the size of the tumor. It has decreased to four inches by three and a half. The reduction seems to be proportionate to the severity of the reaction following the exhibition of the toxines. Two minims are injected to-day, but there is no chill.

2d.—No injection.

3d.—Patient received two minims and a quarter and had a hard chill which lasted three quarters of an hour.

4th.—There has been a rapid decrease in the size of the growth, and the patient can again swallow solids without difficulty; has taken chops and eggs to-day. There was no reaction after an injection of two minims and a quarter.

5th.—Two minims and a half injected; no chill.

6th.—The injection was increased to three minims, and a sharp chill followed fifteen minutes later.

7th.—Three minims are injected. There is a marked improvement in all the symptoms and a further decrease in the dimensions of the tumor.

8th.—Three minims and three quarters are injected; no chill.

9th.—Four minims are followed by no reaction.

10th.—Five minims are injected, followed by a sharp chill, nausea, and vomiting, and great prostration.

11th.—Tumor is reduced to three inches by two and a half inches. On account of the severe reaction following the injection of yesterday none is given to-day.

12th.—The tolerance for the toxins has increased to a point where five minims produce no reaction.

13th.—Five minims and a half are injected; no chill.

14th.—After six minims to-day there was a hard chill and fever.

15th.—An appreciable diminution in the size of the tumor can be seen since yesterday. Injection of six minims and a half is followed by a pronounced chill.

16th.—Dose is increased to six minims and three quarters and there is a good reaction.

17th.—Patient was up and about the room all day and he is entirely free from pain. Seven minims and a quarter are injected.

20th.—The injection has been gradually increased up to nine minims and a quarter, after which there was a hard chill and considerable nausea.

21st.—There has been a continuous and rapid diminution in the size of the tumor, which is now movable and painless. Nine minims and a half were injected without reaction. Patient is up and about and walks out every pleasant day.

22d.—Injection of ten minims was not followed by a chill, but there was much vomiting, which has weakened the patient.

23d.—The injection is omitted.

24th.—Eleven minims injected; no reaction.

25th.—Eleven minims and a half; no chill.

26th.—Injection of twelve minims was followed by a hard chill and vomiting.

27th.—Injection is omitted, as patient is despondent and stomach is unsettled.

28th.—The tumor is scarcely visible; on palpation its measurements are an inch and three quarters by an inch and a half. Stomach is much better, and nourishment is well borne. Twelve minims were injected to-day and fifteen minutes later the pupils dilated and there was a slight clonic convulsion of the arms and face, but no loss of consciousness. The area of the tumor about injection became hot, red, and swollen. A hard chill and fever followed.

29th.—No injection.

30th.—Eleven minims are injected; no reaction.

June 8th.—For the past week the patient has not done so well. A small, superficial abscess formed over the site of the injection of May 28th, which is opened and dressed. As tolerance of the injections is acquired there is a cessation of improvement. If the injections are discontinued a few days there is an increase in the tumor as rapid as is the improvement when the injections are given. Certainly, in this case, experience does not justify the hope of a permanent cure, and the systematic use of the injections is abandoned. For the following month they were used merely as a palliative to relieve pressure symptoms. The patient gradually failed, and died of exhaustion on July 9th.

It is believed that an impartial survey of the facts here recorded can not but convince one that there was an immediate and pronounced influence of the toxins in causing retrogression and absorption of the tumor mass, and, although a cure was not effected, yet the patient's urgent and distressing symptoms were relieved, he gained for a time in flesh and strength, and his life was probably prolonged. When the pitiable hopelessness of his condition is considered, then, the results of treatment can not be deemed an entire failure. It is also apparent from the symptoms following the second injection that the toxins may act as a powerful poison, having a direct paralyzing effect upon the respiratory centre. Notwithstanding, however, its possible dangers and the uncertainty of its action, the toxine treatment constitutes at present our only therapeutic resource for inoperable malignant disease having well-authenticated cases of recovery to its credit. Should not the patient have the benefit of its trial?

145 WEST SIXTY-SIXTH STREET.

## CORSICAN FEVER.

By W. W. SKINNER, M.D.,  
FORMERLY OF AJACIO, CORSICA.

DURING certain months of the year those who reside or travel in Corsica are in danger of having what is commonly called Corsican fever. These are the summer months, from the middle of May to the time of the autumn rains, which usually occur in October. This danger is especially great for foreigners and the unacclimated, but native Corsicans are not entirely exempt, although the attacks of the malady that the latter experience are usually milder in intensity and rarer in occurrence than those to which the foreigner is exposed. There is no warning of the imminence of an attack, no apparent reason for apprehending danger to a visitor to this beautiful island who, choosing the late spring or the summer for his visit here, does not perceive why he should not profit by the delightful climate and the clear atmosphere in the midst of which he finds himself, to see the various points of interest offered for his enjoyment. Only the knowledge derived from the previous experience of others is there to prove to him the existence of this invisible enemy. It is, however, chiefly the coast and the lowlands that constitute the regions of danger; the high mountains in the interior are, on the contrary, regions of safety and salubrity.

The term "Corsican fever" is not, of course, an accurate nosological expression. A disease can not be scientifically named after the locality in which it is observed any more than it can bear the name of the man who first or best described it. There are, nevertheless, many regions after which fevers have been named. Thus we hear of Roman fever, African fever, coast

fever, Indian fever, valley fever, etc., in all of which the pathogenic element is probably one and the same.

The fever which forms the subject of this article is acquired by simply living in the infected region, and by not taking sufficient and minute precautions against it. If a visitor to Corsica were to live during the summer in Bastia, Ajaccio, or Aleria as he would if he were in New York, Philadelphia, or Boston, he would undoubtedly present a fine case of Corsican fever before the summer was over. The sightseer who walks or drives about the country or the towns, the day laborer at work in fields or factory, the sportsman in quest of game, the housewife at her duties, are alike subject to this affection. It is an infectious disease and the germ is breathed into the system with the air, perhaps also taken into the stomach with food or drinking water. One ætiological factor, however, is predominant, and that is exposure to cold or wet. One patient under the writer's care, who was in the habit of always wearing a hat or other head covering when out of doors, took advantage of the mild temperature one beautiful spring evening to take a short walk bareheaded after sundown. Within forty-eight hours she had "the fever." Another took a drive one sunny afternoon, but the light breeze, increased by the speed of the carriage, caused a slight feeling of chilliness during the drive. Result, confinement to bed for a few days with "the fever." It is a common experience for a sportsman or a workman caught in a shower and drenched to have an attack of fever afterward.

Age has little or no causal influence, nor has sex. A girl baby eight months old, still nursing, came under the author's observation that presented a typical attack of this affection, in which the temperature reached the respectable figure of  $41.2^{\circ}$  C. ( $106^{\circ}$  F.), but was promptly amenable to the usual treatment. From this age to that of advanced life in both sexes it is common to find cases of fever in spite of the numerous and incessant precautions taken against it.

There is one curious feature about this fever in connection with altitude which is worth mentioning. Several cases have been observed in which the subjects experienced no rise of temperature and no pathological symptoms so long as they remained in regions of about the same level, notwithstanding that these regions were unsanitary and that the fever was prevalent there. But as soon as these persons left the lowlands and abruptly ascended to a mountainous region of three to four thousand feet, they would begin to have attacks of fever in a day or two after their arrival in the mountains, where fever is never acquired. It would seem as if the organism of the patient made an effective resistance to the disease as long as it was in the unhealthful environment, but that the moment the organism realized that it was no longer living in the midst of germs it would relax its vigilance, or, in other terms, abandon its resistance to the disease, thus giving the latent malady an oppor-

tunity of manifesting itself. In the words of the patients, the altitude and the corresponding lower atmospheric temperature and pressure seem to "bring out the fever."

There are certain hours of the day which experience shows to be more favorable to acquiring the fever than others. These are the hours when dew is falling or about to fall, or again when it is redissolving and evaporating. The hours about sunrise or sunset are particularly dangerous. The natives of this island are well aware of this fact and regulate their hours of agricultural labor accordingly. An interesting example of this kind is to be observed on the east side of Corsica, where the sea is bordered by a long, low, level stretch of coast extending several kilometres inland. There the land rises and soon becomes mountainous, thus insuring immunity from the fever. This lowland, however, is very fertile, although excessively febrigenous. So the owners and workers of this pestilential ground are obliged to live in the mountains and go to their work on horseback, because the distance is so great. In this way it is their habit to ride hastily down to their fields in the middle of the morning, work there during the few midday hours, then, as the sun sinks in the west, to mount their horses again and fly in all haste to the highlands, thus escaping an invisible foe.

Corsican fever presents itself in several forms. Commonly it occurs in a remittent form, the temperature of the body increasing to an abnormal degree during part of the day, then subsiding to the normal for a few hours. Not infrequently it is subcontinued or even continued, the daily remission hardly descending to normal or else not approaching within one degree of the normal. More rarely it is frankly intermittent, but even in these cases it is not often of a clear tertian type, still less a quartan, but rather of the unsatisfactory daily type.

The prodromata are such as usually mark the approach of a fever of paludal origin: diminution of appetite, lassitude, mental sluggishness, heaviness of the head, etc. In a day or two these symptoms increase, and there is added a sensation of chilliness creeping up and down the vertebral region and the lower extremities, or even a distinct chill. These sensations often occur in the late hours of the afternoon or in the evening, and last an hour or two.

The digestive tract offers its quota of symptoms. The tongue is more or less coated. Emesis is often observed in infants and young children, anorexia and thirst in the adult. A certain degree of emaciation obtains if the disease is not promptly treated, and the countenance betrays a state of suffering; the features are drawn, the complexion sallow or leaden. Not infrequently an unhealthful purple flush discolors the cheek, while frontal or general cephalalgia is the rule.

In regard to sudation during an attack of this fever there is a marked difference in individuals. Many will



retain a hot, dry skin throughout the entire day. Often there is a suspicion of moisture as the temperature is subsiding, while in other cases marked perspiration occurs, though usually it is not so profuse as in typical cases of malarial intermittent fever.

The spleen is not of necessity enlarged. In a large number of instances it is not perceptibly increased in volume, even when the intensity of the fever is great and the patient obliged to remain in bed continuously. In other cases it presents enlargement. Megalosplenitis is thus seen to be an inconstant sign notwithstanding the fact that a given case may be one of great severity.

Elevation of temperature is the most prominent and constant symptom, and often the only one upon which the physician can base his diagnosis. It begins in the morning and is sometimes unperceived by the patient until the earlier hours of the afternoon. It persists until sunset, and even until after the patient falls asleep for the night. Its intensity varies from a few tenths of a degree above the normal to  $41.5^{\circ}$  ( $106.5^{\circ}$  F.) and still higher. The victim is not always forced to take to his bed, but usually does so during the hours of highest fever, and especially as the disease advances, when he becomes weaker and less resistant. These characteristics of the temperature serve as an excellent means of diagnosis between Corsican fever and the various intermittent forms of pyrexia observed in hepatitis, tuberculosis, urethritis, etc.

The diagnosis is made chiefly by exclusion. If there is no pulmonary disease or affection of the digestive tract, including the liver, to account for the symptoms, the presumption is already in favor of Corsican fever. When, in addition to this, the peculiarities of the temperature are considered, and also the fact that the attack repeats itself daily in the same manner, or at least increases gradually in severity, all doubt is dispelled, especially if the specific mentioned under the head of treatment produces its desired therapeutical effect.

Various complications are capable of more or less completely masking the fundamental disease. Thus one patient had an acute cystitis in the course of an attack which soon drew to itself the greater part of the attention, both of the physician and the sufferer, on account of its severity. Frequent and painful micturition, vesical tenesmus, great pain upon exploration of the base of the bladder, and quantities of pus in the urine, were symptoms fully justifying the diagnosis of this complication. A change of air from the low region, where the attack began, to the mountains, twelve hundred metres above sea level, produced more benefit in this case than all other means combined, for it effected a complete cure both of the fever and of the cystitis.

Pleurodynia has also figured as a complication, as well as megalosplenitis without fever. It is not rare to observe the congestion of certain organs, as liver or lung, especially in the early stages of the infection be-

fore the disease has fairly decided, so to speak, to subside into its monotonous habitual form.

Curious to note are the forms without fever. Paradoxical as this may seem, it would be still more so if we did not already know of analogous cases such as those of typhoid fever without elevation of temperature. They are usually characterized by the predominance of some symptom not usually attributed to fevers of this nature. Thus the patient may complain simply of a neuralgia, a cephalalgia, a diarrhoea, or even a herpes zoster. One patient, otherwise in perfect health, was tortured by most excruciating pain due to neuralgia of the gluteal region, but only during certain hours of the night, from ten till twelve o'clock. Another had a circular area of herpes zoster that defied all treatment until the true nature of the cause was finally suspected and remedial measures applied accordingly. Still another presented a most incoercible diarrhoea that neither dieting, nor lying in bed, nor opiates, nor astringents would modify in the least. When at last the remedy for Corsican fever was given the diarrhoea ceased as if by magic.

The treatment of this disease requires but few agents, the principal among which is quinine. To speak of fever in this island is to suggest the use of quinine, and it is astonishing to perceive what enormous quantities are used and what Rasorian doses are sometimes taken. An old-timer does not bother himself to measure it by grains or grammes; he simply takes a teaspoonful, more or less, at a dose. It is evident, too, that in some way the taking of an ordinary dose by the mouth becomes ineffective after a time, so that those long accustomed to such doses do not feel the effects nor reap the benefits from them which they have a right to expect. Hence the almost unlimited increase in dose as the effect is found to be less. In such cases another manner of administering the remedy is advantageous, such as the hypodermic method or even the enema, in which a smaller quantity of quinine suffices.

Antipyrine given in conjunction with quinine often hastens and augments the antipyretic effect of the latter, but has in itself no specific action. Ergotine has also been lauded for the same reason, but my personal experience with it is limited and unconvincing. Cold douches, short and sharp, over the whole of the cutaneous surface are an excellent adjunct in fighting this disease. They often start a patient toward recovery when other measures fail. The surest and most radical way to cure the fever, however, is to leave the country.

It was noted above how the tillers of the soil descend from the healthful heights on horseback to attend to their crops in the lowlands in the middle of the day, and return again at night in order to avoid the fever. There is another custom among harvesters and hay-makers of sojourning a time in the mountains after the pressing work of caring for the crop is finished. These men, during the few days of hurry incident to

haymaking and harvesting, are obliged to pass the night near the fields in which they work, and if these are situated in the low valleys, as is chiefly the case, they are sure to be exposed to an attack of the fever. They work as rapidly as possible, therefore, to finish gathering the grain at the earliest moment; but as soon as this is done they betake themselves with all dispatch to the mountainous interior, where they pass several weeks throwing off the infection acquired in the lowlands. Thus during the month of September last year, there were upward of sixty harvesters at the town of Bocognano, situated in the interior of the island at an altitude of three thousand feet above the sea level, who had been working in the grain fields of the beautiful but pestiferous region of Campo del Oro near Ajaccio. They expected to escape the fever by this change of living, or to cut it short should it develop.

Perhaps one of the most important points for strangers visiting Corsica is how to avoid the fever; therefore a word on prophylaxis would not be out of place here. The safest time of the year to visit this beautiful island is between the months of November and April. Even then some precautions must be taken. One must avoid sudden changes of temperature, and not be unexpectedly found without sufficient clothing for perfect comfort. One must avoid being drenched with rain or becoming wet when out driving, fishing, or shooting. It is best to avoid currents of air. One old practitioner of Ajaccio invariably forbids a patient to have even his windows open during his illness. The time of sunset and the hour immediately following is an unsafe one in which to be out of doors to those unaccustomed to the climate. Many attacks can be traced to the imprudence of staying out "to watch the lovely sunset."

From the foregoing it will be readily seen that Corsican fever is but a form of malarial fever, or rather that it is one of the manifestations of that protean and widely disseminated pestilence called malaria. Its prevalence in low, marshy regions; the manner of its onset; its character of essential fever as distinguished from symptomatic fever; its partial, perverted, and vicarious forms as shown in the neuralgias, herpes, diarrheas, etc., of which the attack sometimes consists; and above all its amenability to the great antimalarial specific, quinine, all establish its relationship to malaria.

#### EXPERIMENTS UPON THE EFFECTS OF DIRECT ELECTRIZATION OF THE STOMACH.

By MAX EINHORN, M. D.

OF late direct electrization of the stomach has been frequently made use of with beneficial result in the treatment of chronic gastro-intestinal affections. Some writers even go so far as to place intragastric electriza-

tion at the head of the therapeutic means available in the treatment of the manifold dyspeptic conditions.

The explanation of how the current exercises its curative effect has a merely theoretical interest. In regard to the practical use and value of a certain remedy, it can be at present estimated by empirical results alone. This being obtained in numerous cases by various authors, and being favorable, the remedy will have to be pronounced useful, otherwise not.

The reports on intragastric electrization which have of late been published are quite numerous and very favorable. This mode of treatment is, therefore, of great value and deserves to be still more promulgated than it thus far has been.

That old, well-recognized remedies which have stood the test of experience are occasionally repudiated by physiological experiments is an occurrence which has been of late frequently observed. I need only mention, as an instance, the effect upon the stomach of the bitter remedies (*amara*), which has been refuted by the experiments of Tschelzoff on dogs and of Jaworski on human beings. Notwithstanding this, the "*amara*," continue to be used, and I should not be astonished if new experiments, arranged somewhat differently, should prove the efficacy of this class of remedies and obtain for them warm advocates.

\* Although I am, myself, an ardent believer in experimental investigation, I am, nevertheless, of the opinion that old facts should not be so quickly upset.

If we now again turn to direct electrization of the stomach, we find that an important investigator has recently written against this therapeutic means, basing his views entirely upon experiments made on animals. I mean Dr. S. J. Meltzer.\* Intragastric electrization being of practical importance and high value, I consider it opportune to enter upon a discussion of this subject.

In his paper, *An Experimental Study of Direct and Indirect Faradization of the Digestive Canal in Dogs, Cats, and Rabbits*, Meltzer arrives at the following conclusions: "The mucous membrane of the digestive canal offers a considerable resistance to the penetration of the faradaic current to the muscular coat; the greatest resistance is found in the mucous membrane of the stomach. The percutaneous and the direct faradization of the stomach or the intestines can not produce any contraction in these parts.

"My statements have reference only to the animals I experimented with. However, abdominal surgery might offer an opportunity to test their validity for the human being."

In perusing Dr. Meltzer's paper the following three points are somewhat startling:

1. In studying direct electrization of the stomach on animals—in which one electrode was situated within the viscus, the other at the serosa—this investigator did not

\* S. J. Meltzer. *New York Medical Journal*, June 15, 1895.

get any contraction whatever of the stomach, even if the faradaic current was very strong and if the two electrodes were not very far apart. (If the electrodes were directly opposite each other, then a strong current produced weak contraction.

2. In faradizing the gastric serosa with a bipolar electrode, Meltzer produced contractions only in the pyloric portion of the stomach, whereas the fundus of the organ remained *inert* even when the current was very strong.

3. The resistance of the gastric mucosa, according to Meltzer, is different from that of all other mucous membranes, being here very great.

While the first two points have direct reference to experiments on animals, the accuracy of which can only be ascertained by similar trials on animals, the third point is merely theoretically constructed, and, as it appears to me, on a false basis.

In contrast to Meltzer's experiments on animals I will report some of my own investigations, which I copy from my record book.

*Experiment I; July 2, 1895.*—Frog fastened with nails to a board; abdomen opened. Stomach filled with food. One electrode (consisting of a fine rubber tubing through which runs a thin wire; the tubing has one or two small openings near the end while its mouth is occluded) is introduced through the mouth into the stomach, while the other electrode (consisting of smooth metal about one millimetre and a half in thickness) is held over the gastric serosa. As soon as a faradaic current is sent through the electrodes the stomach contracts at the point situated underneath the outer electrode; the zone of contraction is formed by a line which is perpendicular to the greater curvature and extends over the entire width of the stomach; no contraction of the body visible; if the outer electrode is placed on any part of the body (leg or abdominal wall), then the faradaic current produces contractions of the body, while there is apparently nothing visible with regard to the stomach.

*Experiment II; August 13, 1895.*—Frog; the stomach does not contain any food. One electrode within the stomach, the other applied at the serosa; if the outside electrode is large, the faradaic current produces contractions of the whole body; if it is small, a constriction of the stomach appears beneath the outward electrode.

Stomach opened; both electrodes applied at the mucosa, the distance between them being 0.5 to 0.6 cm.: faradaic current produces contractions of the whole body.

The stomach is resected above the cardia and below the duodenum and removed from the body. If both electrodes touch the mucosa and the faradaic current is made to pass, a slow raising of the gastric walls becomes noticeable and the gastric volume becomes appreciably smaller.

If one electrode touches the gastric mucosa, while the other is applied at the serous coat of either the stomach or the duodenum, the faradaic current produces a constriction corresponding to the place at which the outward electrode is held.

*Experiment III; August 15, 1895.*—Frog; stomach empty. One electrode within the stomach, the other

applied at the serosa. The faradaic current produces constriction of the stomach at the place corresponding with the outside electrode, and at the same time contractions of the body. The position of the electrodes being the same, the galvanic current (3 MA.) effects a very pronounced contraction of the stomach at a place corresponding to the outside electrode; this contraction lasts for some time after the current has been interrupted.

The stomach is opened; both electrodes are held at different places of the gastric mucosa; the faradaic as well as the galvanic currents produce contractions of the body; the galvanic effects a contraction of the stomach which persists for some time after the current has been interrupted.

If the stomach is cut out and removed from the body, faradization (one pole being in the stomach, the other applied at the serous coat) always produces a constriction at a place corresponding to the outside electrode, while there is no marked change when both poles touch the mucosa. Galvanization produces raising and rolling up of the stomach if both poles touch the mucosa; while if one touches the mucosa and the other the serosa, there is an extensive contraction at the outside pole. The contraction lasts for some time after the current has been interrupted.

*Experiment IV; July 14, 1896.*—Frog (five weeks without food). One electrode within the stomach, the other applied at the serous coat; the faradaic current produces a contraction of the stomach at a place corresponding to the outside electrode. The stomach is opened and one little piece of Congo and litmus paper inserted in the stomach. Faradization for one minute, the electrodes being in the same position as just mentioned, did not change the color of either the Congo or the litmus paper.

The stomach being cut out and removed from the frog, shows a contraction of the organ upon direct faradization (one pole within the stomach, the other applied at the serous coat).

*Experiment V; July 15, 1896.*—Frog; stomach not containing any food. One electrode within the stomach, the other held over the serosa of the small intestine; the faradaic current produces constriction of the intestine at the place at which the electrode is applied.

The stomach is resected and removed from the abdomen; one electrode is placed at the mucosa, the other at the serosa; the faradaic current produces constriction of the stomach at the outside electrode.

If the stomach is put on one of the frog's legs and one electrode applied to the gastric mucosa while the other is held over any part of the frog's body (leg, abdominal muscles, or skin), the faradaic current produces contractions of the leg over which the stomach is situated.

*Experiment VI; July 22, 1896.*—Rabbit under chloroform anaesthesia. The abdomen opened and the stomach pushed forward. The bipolar electrode is held over the gastric serosa; the faradaic current produces a constriction of the entire width of the organ perpendicularly to the greater curvature. The entire gastric region, including the whole fundus, shows the same phenomenon.

The stomach is opened; one electrode is applied at the gastric mucosa while the other is placed over the serosa; the faradaic current produces a constriction at the outside electrode.

*Experiment VII; August 25, 1896.*—Rabbit under



chloroform anæsthesia. Abdomen opened; upon touching the gastric serosa with the electrode (without any current) a slight contraction of the stomach is visible. Applying the bipolar electrode at the gastric serosa, a weak faradaic current produces a more pronounced constriction of the stomach. If one electrode is applied to the gastric mucosa, while the other is held over any part of the serosa, the faradaic current effects a considerable constriction at the outside electrode.

*Experiment VIII; August 26, 1896.*—Rat under chloroform anæsthesia; abdomen opened.

1. The bipolar electrode is applied at the gastric serosa in the fundus region; a weak faradaic current produces a strong local contraction. If the bipolar electrode is held over the serosa in the middle of the stomach, the faradaic current evokes a somewhat weaker contraction.

2. Stomach opened. One electrode within the stomach, the other applied at the serosa in the fundus region; the faradaic current produces a strong contraction; if the outside electrode is held in the middle of the stomach, the contraction is slighter.

3. One electrode within the stomach, the second touching the serous coat of the duodenum or small intestine; the faradaic current invariably produces a contraction at the outside electrode.

*Experiment IX; August 26, 1896.*—Rat. The experiments mentioned under VIII are repeated, and the results are the same as described.

The stomach, if cut out and removed from the body, shows for a short period the same phenomena under the influence of the faradaic current as when in the body.

*Experiment X; September 2, 1896.*—Frog; abdomen opened. The rubber electrode within the stomach, the other applied at the gastric serosa. The faradaic current produces a contraction (considerable constriction) at the outside electrode. The latter being applied at different spots between the cardiac and pyloric portions of the stomach shows the same phenomenon. The position of the electrodes being the same, a weak galvanic current (1 to 2 MA.), lasting only half a second, produces contraction at the outside electrode; this contraction frequently assumes a peristaltic character.

The stomach is cut out and removed from the body; then it is opened. Both electrodes applied at the mucosa produce on faradization a peristaltic contraction rolling up the stomach. If one electrode is applied at the mucosa, while the other is placed at the gastric serosa, the faradaic current effects a contraction at the electrode held at the serous coat.

The galvanic current produces contraction, no matter whether both electrodes are applied at the mucosa, or one at the mucosa and the other at the serosa.

If small pieces of litmus and Congo paper are placed on the gastric mucosa and the faradaic current is applied to the stomach, the litmus paper turns slightly red, which the Congo is not changed.

*Experiment XI; September 2, 1896.*—Frog; abdomen opened. The stomach is small and empty. The experiments described under X are repeated; the same phenomena appear as above mentioned, although slightly less marked.

*Experiment XII; September 8, 1896.*—Frog; abdomen opened. The stomach is found filled with grass. One electrode within the stomach, the other applied at the gastric serosa; the faradaic current produces but weak contractions at the outside electrode.

The stomach is cut out and removed from the body;

then it is opened and emptied of its contents. The faradaic current, if both electrodes are applied to the serosa, produces contraction; if both poles are on the mucosa, slight rolling up of the stomach.

The galvanic current effects, if both electrodes are applied at the gastric mucosa, a strong peristaltic contraction. The same phenomenon takes place if the galvanic current is applied, one electrode touching the mucosa, the other the serosa.

*Experiment XIII; September 12, 1896.*—Frog; abdomen opened. The gastric electrode is within the stomach, while the other is held over the serosa. The faradaic current produces simultaneous constriction at the outside electrode. This refers to the fundus as well as to the pyloric portion of the stomach. The electrodes being in the same position, the galvanic current produces a very pronounced local contraction; the latter begins about two to three seconds after the current has passed, and is soon followed by peristaltic contractions of the stomach.

At the outside electrode, at which spot the local contraction originates, the stomach grows very pale, and remains in this state for about two to three minutes. If both electrodes are applied at the gastric serosa, the faradaic current produces a medium-sized contraction; while the galvanic current effects a very strong local contraction which is frequently accompanied by a peristalsis of the organ. Both electrodes being applied at the mucosa, the faradaic as well as the galvanic currents produce either a rolling up of the stomach or a contraction, although occasionally this phenomenon may be missing.

*Experiment XIV; September 13, 1896.*—Frog; abdomen opened. Both electrodes are applied at the gastric serosa; the faradaic current produces a contraction. The galvanic effects a very strong contraction; it appears two to three seconds after the current has passed and produces a considerable constriction of the stomach for quite a time (two or three minutes).

If the rubber electrode is within the stomach and the other is applied at the gastric serosa, the faradaic current produces simultaneous contraction at the outside electrode (the entire stomach, including the whole of the fundus, shows the same phenomenon). The position of the electrodes being the same, the galvanic current effects a very considerable constriction of the stomach (which part becomes decidedly pale) for quite a time. The stomach is cut out and removed from the body, but not opened.

Both electrodes applied at the serosa; the faradaic current produces contraction, no matter whether the electrodes are held at the fundus or at the pyloric part of the stomach. The galvanic current produces strong contraction persisting for quite a while.

(This phenomenon also refers to the whole stomach, fundus included.)

*Experiment XV; September 15, 1896.*—Frog; abdomen opened. One rubber electrode within the stomach, the other at the gastric serosa; the faradaic current produces a contraction. If the stomach is covered with the abdominal wall and the other electrode applied at the skin, the faradaic current produces either no contraction whatever of the stomach, or a slight one; while there are always contractions of the abdominal muscles.

If the stomach is severed from the body and put on the frog's abdomen, while one electrode is applied to the gastric mucosa and the other at the frog's leg,

the faradaic current, after an application of several seconds, produces visible peristaltic contractions of the stomach. This experiment was repeated several times with the same result. The peristaltic contraction persists for about twenty to thirty seconds after the current has been interrupted.

*Experiment XVI; September 15, 1896.*—Frog; abdomen opened. The rubber electrode within the stomach, another ordinary electrode applied in the rectum; the faradaic current produces contractions of the entire body, while there are no contractions visible either in the stomach or in the intestines.

If one electrode is applied at the rectum and the other held over the serous coat of either the stomach or the small intestine, the faradaic current invariably produces a contraction at the outside electrode.

*Experiment XVII; October 11, 1896.*—Small dog, about four months old, is chloroformed, the abdomen opened, and the stomach exposed. The latter is found in an empty state and does not show any peristaltic contractions. The bipolar electrode is applied at the serosa of the fundus; a weak faradaic current produces a local constriction which is soon followed by a peristaltic contraction. The entire region of the fundus discloses the same phenomenon. If the bipolar electrode is applied at the serosa of the pyloric portion of the stomach, the faradaic current produces contractions of a more intense nature. The stomach is opened; one electrode is held at the gastric mucosa, the other at the serosa (fundus); a weak faradaic current produces a light peristaltic contraction.

From the above-cited experiments it is apparent that in rabbits, rats, dogs, and frogs the faradaic current produces contractions of the stomach under the following conditions:

1. If a bipolar electrode is applied at any part of the gastric serosa (including the fundus).
2. If one electrode is held within the stomach and the other applied at any part of the gastric serosa.
3. If one electrode is within the stomach and the other applied to some other part of the body (leg, arm) which is not too far away from the stomach, a faradaic current of medium strength, lasting twenty to thirty seconds, produces peristaltic contractions of the stomach in addition to the contractions of the part at which the outside electrode is held.
4. The bipolar electrization of the gastric mucosa produces peristaltic contractions of a lower degree.

All four statements have also reference to the galvanic current, with the only difference that with the latter the contractions of the stomach appear somewhat later, are considerably stronger, and occasionally accompanied by peristaltic movements and last longer.

My experiments are thus not in harmony with the two statements of Meltzer's above mentioned, namely that:

1. Direct faradization of the stomach (one electrode within the stomach, the other applied at the gastric serosa) does not produce any contraction.
2. Faradization with the bipolar electrode of the serous coat of the fundus does not produce any contractions.

I now pass to Meltzer's third statement, that the gastric mucosa offers such great resistance (more than any other mucous membrane) to the penetration of the faradaic current. This statement is entirely hypothetical. Meltzer based his theory of the great resistance of the gastric mucous membrane upon the fact that faradization with the bipolar electrode applied to the gastric mucosa produced either no contractions of the stomach whatever or very slight ones.

Meltzer explains this phenomenon by assuming that the current *can not* penetrate the mucosa and reach the muscular layer of the stomach; for this reason there is no contraction.

It appears to me, however, much more probable and natural to presume that the gastric mucous membrane is a very good current conductor. But just for this reason the current, if both poles are at the mucosa, will run merely through this membrane and not reach the muscularis. The electric current, as is well known, always takes the shortest path, the one which offers least resistance.

Leaving theoretical explanations aside, I have measured the resistance which the gastric mucous membrane of man represents, as may be seen from the following experiment:

*August 8, 1896.*—Morris S., a healthy man of about thirty-eight years, takes one glassful of water and swallows the deglutible electrode; the other electrode (an ordinary sponge electrode two centimetres and a half in diameter) is applied at the epigastrium.

A very weak galvanic current is now made to pass between the two electrodes, and the resistance between the gastric mucosa and the skin measured with the Wheatstone bridge. It amounts to 6,800 ohms.

If one electrode is applied at the epigastrium while the other is placed at the back, somewhat to the left of the seventh dorsal vertebra, and a weak galvanic current made to pass through the electrodes, the resistance amounts to 22,000 ohms.

This clearly shows that the gastric mucosa does not offer any great resistance to the galvanic current. The gastric mucosa can not act differently toward the faradaic current.

All my experiments mentioned on animals tend to show that electrization of the stomach produces contractions of this organ. The last experiment on man shows that there is least resistance if one electrode is within the stomach and the other held at the epigastrium.

With regard, however, to the therapeutic efficacy of intragastric electrization, I do not believe that the same consists merely in producing contractions of the stomach, and fully agree with the following remarks of von Ziemssen: \* "The belief that the principal effect of gastric electrization consists in producing contractions of the muscles of the stomach and effecting a

\* H. von Ziemssen. *Die Electricität in der Medizin*, 1887, p. 445.

diminution of the size in gastrectasia does not in its main points harmonize with my own view. For I consider the influence of the current upon the secretory, vasomotor, and sensitive nerves as much more important and of practically higher value than its bearing upon the motor sphere."

Empirical knowledge is, I think, in perfect accord with this statement. For every one who has occupied himself sufficiently with intragastric electrization has undoubtedly seen its beneficial effect in the most varied affections of the stomach (principally of a functional character). I therefore do not hesitate to again warmly recommend direct electrization of the stomach as one of the most efficient and valuable remedies at our command.

#### ON THE TREATMENT OF SCIATICA BY MASSAGE.

By GUSTAF NORSTRÖM, M.D.

THE sciatic nerve is the greatest nerve of the body; it serves to innervate the muscles and the skin of the posterior part of the thigh, the whole leg, and the foot. The affection of this nerve presents itself under two forms, that of neuralgia and that of neuritis. The acute variety is caused by cold and traumatism; the other variety is likewise caused by traumatism (violent blows, prolonged improper position), by compression (tumors, luxation, fractures, pregnancy), by rheumatism and hysteria.

Neuritic sciatica may have the same origin as the neuralgic form. Its treatment is the same as that of neuralgic sciatica. The diagnosis is, as a rule, very easy. We must always seek the painful characteristic points, of which some may be absent in the special case. Generally speaking, the course of the whole nerve, or but a portion of it, is more or less painful to pressure according as the affection is of an acute or chronic character.

The most frequent cause of sciatica is rheumatism. Now, rheumatism produces in many cases a special myositis which comes on either before or after the nerve itself is affected. This myositis presents on palpation all degrees of muscular inflammation from simple puffiness to osseous induration of the muscular fibres.

I have very carefully explored all the muscles situated in the course of the sciatic nerve and in its neighborhood, and to my great surprise only one of them seems to be the favorite seat of the myositis; it is the *glutæus medius*, and particularly that portion of it which corresponds to its upper insertion. If we follow, however, the course of the nerve downward, we notice sometimes new deposits in the calf on a level with the peroneal muscles; these deposits may extend along the entire length of the muscle, but their maximum development is most often found toward the lower insertion. This explains, in my opinion, the pain which

persons affected with sciatica often complain of in the neighborhood of the external malleolus.

I have here briefly—that is to say, *en passant*—referred to the phenomena which accompany sciatic neuralgia, phenomena which may vary infinitely in intensity. It is difficult to determine which one of these two phenomena, neuralgia or myositis, is first produced. Sometimes they are simultaneous, the same cause—namely, rheumatism—provoking both of them. At other times, from the beginning, the nerve alone seems to be affected, but the muscle or the muscles are not long before being taken in their turn. Finally, in certain cases I have ascertained that the *glutæus medius* was alone affected, and that its inflamed state was sufficient to produce all the symptoms which are generally attributed to sciatica alone. This last fact may account for our being in many cases led into error, and, if we were to diagnosticate from its first appearance the inflammation of the *glutæus medius*, we should, by impeding its further development by an appropriate treatment, prevent the propagation of the irritation to the sciatic nerve.

In these cases a real compression on the part of the inflamed muscular fibres may be produced; a compression analogous to the one observed in cases of tumors or foreign bodies pressing on the same nerve. I have had to treat a certain number of cases in which I only used massage on the muscle itself, without paying attention to the nerve.

In one person among others laid up for nearly six months, in whom all the classical means had been employed, I was able to obtain by this procedure alone complete cure in less than five weeks. In this case the sciatic nerve did not present more than physiological sensibility on pressure, but in pressing on the muscle in the neighborhood the invalid screamed aloud and jumped up in the air, to the great astonishment of the patient himself and the physicians who were called in consultation.

These myositides, as well as sciatic neuralgia itself, are acute; then they may be chronic, or appear to be chronic, from the very onset (*chroniques d'emblée*).

I publish these observations in order to attract the attention of physicians to this peculiarity, which is most often unobserved, and which nevertheless plays an important part as regards the treatment. How many cases of sciatica are not cured, because one has not taken into consideration the possible presence of a myositis developed in the neighborhood of the nerve! Moreover, it is well to remember that this muscular inflammation may exist in the beginning only in the form of a puffiness, appearing very slight to the touch, and very often difficult to discover to the non-practised finger. In that state a rapid and definitive cure may be obtained.

*Treatment.*—I have already mentioned in my book on massage (*Traité du massage*) that sciatica is one of



those diseases in which we obtain by means of massage the most favorable results, and this not only, as it is generally believed, in the chronic cases, but also more especially in the acute ones.

If we consider, moreover, that myositis is always cured by massage, we may be easily convinced that the most efficacious treatment in sciatica (idiopathic or not) is massotherapeutics.\*

I will not here enter upon the way of performing massage in sciatica. I have described it in detail in the work alluded to. I shall only mention that, when the diagnosis is made certain that we have to do with a single or concomitant myositis, we must be careful to massage the affected muscle by exactly following the direction of its fibres. One is very often obliged to begin with a rather prolonged *effleurage*, so as to allow the patient to bear a more powerful and deeper massage later on.

I have had to treat in this way during more than twenty years of practice about a hundred and fifty cases of sciatica; some of them were accompanied by gluteal or gluteal and peroneal myositis, some were not, and very few are the cases in which I have failed.

122 EAST THIRTY-FOURTH STREET.

## Therapeutical Notes.

**Eugenol as an Internal Antiseptic and Local Anæsthetic.**—Maurange (*Gazette hebdomadaire de médecine et de chirurgie*, November 15, 1896) regards eugenol as an antiseptic suitable for subcutaneous use in cases of pulmonary tuberculosis with cavities and in those of pulmonary gangrene. He thinks it has an elective action on tissues invaded by Koch's bacillus, and consequently ought to prove curative of lupus. The ordinary subcutaneous dose for an adult is from three to fifteen grains; six grains are enough to produce local anæsthesia for minor dental operations. The injection is but slightly painful if the solution is thrown in slowly. In from four to twenty minutes an anæsthetic zone appears about the puncture. The anæsthesia is of short duration. The author credits Meunier with this formula:

R Eugenol..... 45 grains;  
Heavy petroleum oil..... 1,500 "

M. Dose, a cubic centimetre.

The following formula is attributed to Moty:

R Eugenol..... 150 grains;  
Oil of sweet almonds..... 1,500 "

M. Dose, from a quarter to three quarters of a cubic centimetre in the treatment of lupus.

**Sodium Bisulphate in the Treatment of Hay Fever.**—

*The Journal des praticiens* credits the *Pharmaceutische Zeitung* with the following formula:

R Sodium bisulphate..... 1 part;  
Distilled water..... 500 parts.

M. To be used as a lotion for the nasal passages.

\* We make, of course, an exception in the cases where a mechanical cause is always acting on the nerve; as, for instance, pressure from tumors or osteitis or periostitis in the neighborhood.

## THE NEW YORK MEDICAL JOURNAL, A Weekly Review of Medicine.

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FRANK P. FORTER, M. D.

NEW YORK, SATURDAY, DECEMBER 12, 1896.

### PROTECTIVE INOCULATION AGAINST TYPHOID FEVER.

In a recent number of the *Deutsche medicinische Wochenschrift*, cited in the *Deutsche Medizinal-Zeitung* for November 16th, Professor R. Pfeiffer and Dr. W. Kolle, of the Berlin Institut für Infektionskrankheiten, give an account of their experimental researches on the question of the practicability of protecting the human subject against typhoid fever by injecting a product of the dead bacilli of the disease. For their experiments they chose persons in health, or at least those who had no fever, in whose cases there was a clear history of their never having had typhoid fever. Within a short time after an injection, commonly between two and three hours, the first signs of reaction appear, consisting of chills, giddiness, a feeling of malaise, and pain at the site of the puncture. The evening temperature rises to about 101.3° F., and the first night's rest is somewhat disturbed. On the following morning the temperature is still a little elevated, but soon falls to the normal point, and that is the end of the symptoms.

The authors conclude that one injection of a very small amount of the agent brings about a specific change in the blood which is recognizable after six days and reaches at least as high a grade as they have ever been able to observe in convalescents from the disease. They think it more than probable that the presence of specific substances destructive of bacteria in the blood of persons who have had typhoid fever accounts for the immunity that is known to be enjoyed by such persons. If this assumption is correct, they say, prophylactic inoculations with the dead culture may be expected to confer an immunity of the same degree and duration as occurs after the disease has been incurred in the natural way, and they hold that their position is justified by the results of Haffkine's analogous protective inoculations against cholera, which have stood the severest test in many thousands of cases.

The hope is expressed that these protective inoculations against typhoid fever may become of practical value under certain conditions, for example, in the face of a severe epidemic, for they may be managed easily and speedily by any medical practitioner without special preparations, provided he has at hand the material in

proper condition. The authors draw a striking picture of the saving of life that may result from this practice in time of war, when whole armies have often been decimated by this scourge. Finally, they mention the many previous trials of typhoid-fever cultures and their derivatives, such as those made by Brieger, Wassermann, Fränkel, and others, but remark that these were not for the protection of the healthy, but in the treatment of individuals already affected with the disease.

#### THE THYROID TREATMENT OF STUNTED GROWTH.

BEFORE the *Versammlung deutscher Naturforscher und Aerzte* held in Frankfurt on the Main last September Dr. Johann Julius Schmidt, of Frankfurt, read an essay on this subject, which he had briefly touched upon a short time before in a discussion at the Wiesbaden Congress für innere Medicin. Dr. Schmidt's paper is published in the *Therapeutische Wochenschrift* for November 15th. After referring to Virchow's observation, in 1883, on the relationship of rickets, cretinism, and dwarfing without any disease of the thyroid gland being recognized as at the bottom of the relationship, he goes on to say that the thyroid probably plays an important part in simple stunting of the growth, as well as in cretinism and infantile myxedema. A number of recorded examples of dwarfing associated with atrophy of the thyroid gland are cited, and the author adds that experiments on animals corroborate the idea of a direct connection between the two conditions, as well as the feasibility of effecting by thyroid feeding the restoration of normal growth checked by thyroidec-tomy. Among the interesting observations cited is one by Lang of a hen which, four months after having had her thyroid gland removed, laid an egg that weighed only about a tenth of what an average hen's egg weighs and had a shell as thin as paper.

As regards clinical observations, Dr. Schmidt gives brief notes of four cases in which he has resorted to thyroid treatment to overcome dwarfing in children. The first was that of a girl, thirteen years old, but of the size of a girl of ten, whose growth was restored by thyroid feeding for a period of eighteen months, followed by a five months' course of a daily tablet of Baumann's thyroiodinin. The second was that of a girl, fifteen years old, in size only a child of eleven, who, as the result of ten months' treatment with thyroiodinin, had gained in weight about ten pounds. The third was that of a boy, sixteen years old, but no larger than an ordinary boy six years of age, who after a six months' course of treatment with English thyroid

tablets had grown more than two inches in stature and gained over ten pounds in weight. The fourth was that of a seven-year-old girl so small that her four-year-old brother exceeded her in height. After she had taken a Baumann's thyroiodinin tablet daily for four months it had been found that she had grown two thirds of an inch taller and was more than two pounds heavier. This was not quite satisfactory to Dr. Schmidt, and he ordered two of Engelhardt's thyroid-gland tablets to be taken daily. Not enough time had elapsed since his making this change to enable him to report on the result. These observations seem to warrant the expectation of our overcoming an abnormal condition that has always been looked upon as beyond the reach of therapeutics.

#### MINOR PARAGRAPHS.

##### FORMALDEHYDE FOR THE DISINFECTION OF RAILWAY CARS.

MAURIAC (*Journal de médecine de Bordeaux*, 1896, No. 33; *Centralblatt für innere Medicin*, November 21, 1896) recommends for preventing the propagation of infectious diseases by railway cars the use of formaldehyde vapor generated by burning methyl alcohol in contact with air and incandescent platinum. He describes a lamp that has been devised for this purpose.

#### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 8, 1896:

DISEASES.	Week ending Dec. 1.		Week ending Dec. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	28	9	43	14
Scarlet fever.....	113	9	105	5
Cerebro-spinal meningitis...	3	2	4	3
Measles.....	89	2	116	1
Diphtheria.....	261	30	245	40
Tuberculosis.....	122	81	149	97

**The Wilhelm Meyer Memorial.**—The following announcement has recently been made: The committee on the fund to erect a monument to the memory of Wilhelm Meyer, of Copenhagen, apportioned fifteen hundred dollars as the amount to be raised in America. About eight hundred dollars of this amount has been subscribed and forwarded. Dr. R. C. Myles, of No. 46 West Third-eighth Street, New York, has been appointed to act as treasurer of the fund, and it is earnestly desired that all who intend to aid in making good the American deficit will send him their checks at an early date.

**The American Medico-surgical Bulletin.**—It is announced that at the close of the year Dr. William H. Porter and Dr. Egbert H. Grandin will retire from the editorship, which will be assumed by Dr. Robert G. Eccles, who is well known as a contributor to medical literature.

**The Aiken Cottage Sanitarium.**—Dr. Charles F. McGahan announces the opening of the sanitarium for patients on December 10th. It is planned after the Adiron-

dack Cottage Sanitarium, under the care of Dr. E. L. Trudeau. It is a philanthropic work and is for men only who are in the first stage of pulmonary phthisis. To exclude the pauper class, a nominal charge of five dollars a week is made, which includes board, washing, and medical attention.

**The Society or Medical Jurisprudence.**—The one hundred and twenty-second regular meeting will be held on Monday evening, the 14th inst., at which Dr. Theodore K. Tuthill will read a paper entitled *Remarks on the Coroner's Office, the Character and Scene of its Work*.

**The Richmond Academy of Medicine\* and Surgery.**—At the last regular meeting, on Tuesday evening, the 8th inst., a discussion on *Residual Urine in the Urethra* was to be opened by Dr. Stuart McGuire.

**The City (Charity) Hospital.**—Dr. Thomas H. Allen\* has been appointed a consulting surgeon.

**Changes of Address.**—Dr. W. W. Fullerton, from Boston to Brockton, Massachusetts; Dr. James Stuart, to No. 1226 Fourteenth Street, N. W., Washington.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 29 to December 5, 1896:*

WILSON, WILLIAM H., First Lieutenant and Assistant Surgeon, is granted leave of absence for thirty days, to take effect December 20, 1896.

**Marine-Hospital Service.**—*Official List of the Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the Thirty Days ending November 30, 1896:*

BROOKS, S. D., Passed Assistant Surgeon. Directed to assume temporary command of Port Townsend, Wash., Quarantine during the absence of Passed Assistant Surgeon W. G. Stimpson. November 10, 1896.

MCINTOSH, W. P., Passed Assistant Surgeon. Granted leave of absence for five days. November 5, 1896.

YOUNG, G. B., Passed Assistant Surgeon. Leave of absence extended two days. November 9, 1896.

STIMPSON, W. G., Passed Assistant Surgeon. To proceed from Port Townsend, Wash., to Angel Island, Cal., Quarantine for temporary duty. November 10, 1896.

NYDEGGER, J. A., Passed Assistant Surgeon. Granted leave of absence for four days. November 9, 1896.

STEWART, W. J. S., Passed Assistant Surgeon. Granted leave of absence for three days. November 7, 1896.

BAILHACHE, P. H., Surgeon. Granted leave of absence for twenty-five days from November 18, 1896.

MAGRUDER, G. M., Passed Assistant Surgeon. Granted leave of absence for four days from December 5, 1896. November 28, 1896.

GARDNER, C. H., Assistant Surgeon. To proceed from Chicago, Ill., to Pittsburgh, Pa., for temporary duty, to arrive there on December 3, 1896. Upon completion of this duty to return to Chicago. November 23, 1896.

CUMMING, H. S., Assistant Surgeon. To proceed from New York, N. Y., to Southport Quarantine Station, Southport, N. C., for temporary duty. November 18, 1896.

#### Promotion.

CARMICHAEL, D. A., Passed Assistant Surgeon. Commissioned as Surgeon. November 14, 1896.

#### Boards Convened.

Board convened to meet in Washington, D. C., for the physical examination of an officer of the Revenue Cutter Service: Surgeon FAIRFAX IRWIN (chairman), Surgeon C. E. BANKS, and Passed Assistant Surgeon B. W. BROWN (recorder).

Board convened to meet in New Orleans, La., for the physical examination of an officer of the Revenue Cutter Service, Surgeon H. W. SAWTELLE (chairman),

Assistant Surgeon SEATON NORMAN, and Assistant Surgeon H. W. WICKES (recorder). November 27, 1896.

#### Society Meetings for the Coming Week:

MONDAY, December 14th: New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Boston Society for Medical Improvement; Gynecological Society of Boston; Microscopical Club of the Buffalo Society of Natural Sciences; Maine Academy of Medicine and Science (annual)—Portland; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, December 15th: New York Academy of Medicine (Section in General Medicine); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Pathology); Ogdensburg, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chautauqua (semiannual) and Kings, N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, December 16th: Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Cortlandt (semiannual) and Tompkins (semiannual)—Ithaca, N. Y.; New Jersey Academy of Medicine.

THURSDAY, December 17th: New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement.

FRIDAY, December 18th: New York Academy of Medicine (Section in Orthopaedic Surgery); Brooklyn Medical Society; Baltimore Clinical Society; Chicago Gynecological Society; St. Louis Academy of Medical and Surgical Sciences.

SATURDAY, December 19th: Clinical Society of the New York Post-graduate Medical School and Hospital; St. Louis Medical Society.

## Births, Marriages, and Deaths.

### Married.

BAZET—WALLIS.—In Houma, Louisiana, on Wednesday, November 25th, Mr. Théophile F. Bazet and Miss Helen Gertrude Wallis, daughter of Dr. Hugh M. Wallis.

ECKFORD—RICE.—In Waynesboro, Mississippi, on Wednesday, December 2d, Dr. J. W. Eckford and Miss Mary Rice.

ERDMON—EDGAR.—In Jeanerette, Louisiana, on Monday, November 30th, Dr. T. A. Erdmon and Miss Caroline Edgar.

IRION—EGAN.—In Shreveport, Louisiana, on Thursday, December 3d, Dr. C. H. Irion and Miss Mary C. Egan, daughter of Dr. James C. Egan.

SAUTER—PLATTSMEIER.—In New Orleans, on Thursday, December 3d, Dr. Emile Sauter and Miss Eloise Plattsmier.

STIRLING—MANSTR.—In Baton Rouge, Louisiana, on Wednesday, December 9th, Dr. Louis Grey Stirling and Miss Alma Boatner Mansur.

### Died.

ARNOLD.—In Rockland, Rhode Island, on Wednesday, December 4th, Dr. John A. Arnold, of Brooklyn, aged fifty-one years.

ELLIS.—In New York, on Thursday, December 3d, Dr. John Ellis, in the eighty-second year of his age.

LETCHER.—In Dallas, Texas, on Monday, November 30th, Dr. Joseph S. Letcher, in the forty-seventh year of his age.

WOODRUFF.—In Pine Bush, N. Y., on Tuesday, December 1st, Dr. William H. Woodruff, in the sixty-sixth year of his age.



## Proceedings of Societies.

### SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

*(Meeting of October 7, 1896.)*

The President, Dr. LUCIUS W. HOTCHKISS, in the Chair.

**The President's Inaugural Address.**—Dr. HOTCHKISS expressed his sincere appreciation of the great honor conferred in electing him president of this most honorable society. For this mark of confidence and esteem, the highest gift in the power of the society to grant, he expressed his sincerest thanks.

In accepting the honored position of president of this society, he said, and fully impressed with its dignity and responsibility, he was also conscious of the great amount of work which its acceptance entailed. The officers of the society were its servants, and much depended upon their faithful discharge of duty. He was proud, moreover, to have associated with him as vice president one who honored the office, and who had done so much to further the best interests and traditions of the organization.

In assuming the chair and recalling how much has been accomplished by the energetic officers of former years, Dr. Hotchkiss said that he could not but feel his own unworthiness, and should many times have to ask indulgence, and should always rely on hearty co-operation in furthering the progress of the good work begun.

It was his good fortune, he said, to have been identified with the Society of Alumni of Bellevue Hospital from its birth; to have been one of the committee on organization which reported September 21, 1886, a constitution and by-laws which were adopted.

He had watched with the greatest joy and pride its progress from a lusty infancy to a promising youth, and felt justly proud of his membership in such an organization. Looking backward over the first decade of its history, he was amazed by the steady and marvelous growth from small beginnings.

Organized for the object of promoting the advancement of medicine and surgery and social intercourse among its members, it had singularly prospered. Its influence was felt among alumni of Bellevue everywhere.

The great reunions which had occurred from time to time had been the means of bringing together old Bellevue men from different parts of the world, of fostering good fellowship and heightening the *esprit de corps* among the many children who claimed old Bellevue as their Alma Mater. From an original membership of nineteen which had by the end of the first year reached forty-one, the roll had increased rapidly until in 1894 it numbered one hundred and ninety-nine members. At the present date there were two hundred and twenty-three, which number included resident, non-resident, associate and permanent associate, and honorary members. The early meetings in the winter of 1886 were held in Carnegie Laboratory, where, in the midst of dusty collections of various pathological specimens and growing potato cultures of the cholera bacillus, and enlivened and sustained by the presence of a small keg of beer and a plate of sandwiches, the members passed long evenings in which science, sandwiches, and smoke were joyously mixed.

At this time, though the membership was limited to graduates of not longer than ten years' standing,

they rejoiced in their name of The Society of the Alumni of Bellevue Hospital.

As the membership rapidly enlarged the society sought better quarters, until, at the great gathering at the Cambridge, some six years ago, it began like a young giant to appreciate its great strength and marvelous growth. From that time its growth had been healthy and steady, and the meetings had been full of interest.

A few years ago, continued Dr. Hotchkiss, a medical journal had sharply criticised the society for styling itself The Society of Alumni, etc. The researches of one of its most honored and learned members, however, had clearly proved that etymologically, at least, the society's name was correct, for, as he skillfully pointed out, the members were all alumni—i. e., nourished by a common mother. He pointed out that the word *alumnus* was derived from *alere*—to feed, to nourish. And were they not fed, if not nourished, forsooth, by their Alma Mater? And having been so fed, they all felt that they represented the survival of the fittest, The Society of Alumni of Bellevue Hospital.

They looked backward upon the first decade of their history to the struggles of their young society, and its progress by rapid strides to the foremost position among the great clinical societies of the great city. They were all proud of her. Standing on the threshold of a new year, said Dr. Hotchkiss, and looking back on a glorious past, they should press forward earnestly to the attainment of a greater growth and usefulness. In Dr. Carlisle's account of Bellevue Hospital, published in 1893, was a list of 427 alumni of Bellevue then living and practising. Of this number, 210 lived in New York city, 56 lived in the State, and 161 were scattered in other States and countries. The speaker thought that every effort should be made to increase their numbers. The objects of the society appealed to every worthy son of Bellevue. Every Bellevue man should be interested in the work and every one who was worthy should be upon the rolls.

The tendency of all medical societies was to become, after a time, more or less apathetic, to leave the active work to a few. Here it should not be so. The members were all interested, and should all be workers.

The society wanted the young men and the old men.

The floor was open to all, and the younger men fresh from the work of the wards should be encouraged to use it.

With all workers and no drones in the hive, with all doing active service in the welfare of the society, it would easily accomplish a much greater work in the future than in the past, not only in the way of encouraging social intercourse and good fellowship among men who seldom met, but in the advancement of medicine and surgery, and by adding its share to the great source of human knowledge.

*(To be concluded.)*

## Book Notices.

**Diseases of the Stomach.** A Text-book for Practitioners and Students. By MAX EINHORN, M. D., Instructor in Clinical Medicine at the New York Post-graduate Medical School and Hospital, etc. New York: William Wood & Co., 1896. Pp. xiv+478.

THE appearance of this book is of some significance in so far as it is the first original work of its kind—a

monograph on diseases of the stomach—published in America.

When we glance over the medical literature of the past and of the present generation we find that there exists a tendency to write more and more in a clear and easily comprehensive style. We notice also that books written in such a style as by itself to afford pleasant reading are more appreciated than those which, although of perhaps the same scientific standard, are composed in artificial and complicated phraseology.

It is impossible to exaggerate when we speak in praise of the clear, concise language, a language of almost classical simplicity, which presents itself in Dr. Einhorn's book.

Another pleasant feature is noticeable and will be observed by those who are in the habit of reading certain German scientific publications—the absence of *ἀλλοφάνης* and other words constructed by means of the lexicon of some foreign language, words which sound very learned to some, but in fact are distasteful.

Dr. Einhorn was one of the first in the field, in this country, when diseases of the stomach began to be treated as a specialty. He has devoted many years of a very active life to the study of this specialty, and has enriched our science with a number of original researches, observations, and inventions of lasting value. Quite properly, then, has this work been looked for with exceptional interest, and those who expected a book of scientific and of eminently practical value have not been deceived.

The first chapter, on the anatomy of the stomach and the physiology of digestion, is a masterpiece of precision, giving exactly what the practitioner needs to know, no more and no less. In the second chapter, on methods of examination, we find a description of the author's own invention, the gastrodiphane. Among the many contrivances which have been presented by different authors none can compare with Dr. Einhorn's in simplicity and ease of application. Dr. Einhorn's instrument has none of the drawbacks which characterize the others.

Under the heading of examination of ingesta only such methods are enumerated as have proved of most practical value and are the most reliable. Here, again, we have the description of one of Dr. Einhorn's own inventions which offers indeed many advantages—the stomach bucket. One can carry it in the waistcoat pocket and may use it when the tube is not at hand, where the examination with the tube is declined, or where for other reasons the use of the tube is forbidden. Another invention of Dr. Einhorn's is described which has for its purpose to ascertain the mechanical function of the stomach. It is the ingeniously constructed apparatus called gastrokinesograph, or gastrograph. By means of this apparatus the churning motions of the stomach may be demonstrated. It is probable that continued experimentation may prove this apparatus to be a means of diagnosing certain pathological conditions.

It almost goes without saying that the chapter on diet is a thorough treatise based on the scientific principles which are recognized at the present day. In the chapter on local treatment we read of the author's gastric spray apparatus, which has proved a valuable therapeutic agent in cases of erosions of the stomach, in some forms of chronic gastric catarrh, and in oversecretion and hyperacidity.

Perhaps the most popular of Dr. Einhorn's inven-

tions is his deglutible stomach electrode, by means of which direct electrization of the stomach is facilitated. Indeed, there are many instances in which by Dr. Einhorn's contrivance only do we succeed in availing ourselves of a therapeutic measure of great importance, the direct electrization of the stomach.

With special interest will be read the original and important observations on erosions of the stomach and also the chapter which treats of achylia gastrica. Here we feel indebted to the author for having brought facts to light which give us a better understanding of this affection, and for having shown how this condition may exist without depending on pernicious anemia.

One of the features of the book, not an unpleasant one, is the scarcity of prescriptions given. There are about twenty-four formulas in all. This is certainly progress in the right direction. Instead of the usual abundance of formulas we find the guiding, the reliable principles of therapeutics, and learn to apply them instead of learning a large number of prescriptions by heart. Not too much stress can be placed on this point. Especially will the student who reads Dr. Einhorn's book be thereby the more benefited.

The book commends itself to every student, every practitioner, and, not the least, to specialists of all the different branches. Each and every one of us is obliged to follow the progress in the specialty of the diseases of the stomach. Here we have all that is of importance set forth in a really attractive form. The book is a credit to American literature and will be appreciated as such both here and abroad.

*A Text-book for Training Schools for Nurses, including Physiology and Hygiene and the Principles and Practice of Nursing.* By P. M. WISE, M. D., Medical Superintendent, St. Lawrence State Hospital, etc. With an Introduction by EDWARD COWLES, M. D., Physician-in-chief and Superintendent of the McLane Hospital, Boston. In Two Volumes. New York: G. P. Putnam's Sons, 1896. Pp. xvii-247; vi-327.

It is indeed with a sense of relief that we have read this work, for when we look back upon the large number of "text-books on nursing," "aids to nursing," and books of similar intent that we have been compelled to read for criticism, and remember what utter trash, as a rule, these works have been, we confess to having had a considerable amount of skepticism as to whether a thoroughly commendable and systematic work upon nursing was among the present possibilities. Why it should be so difficult a task to write a satisfactory work of this sort we fail to see, but, with rare exceptions, the authors of such treatises manifest woeful ignorance of their subject or else presume to teach the student-nurse medical things which are far beyond her proper knowledge. The explanation of the matter may lie in the fact that the art of nursing has as yet few teachers who are competent to teach, for it is one thing to be an excellent practitioner of nursing or of another art, and quite another to demonstrate and teach it properly. Few medical men, we think, could wisely venture to expound this subject, and as for nurses themselves, we have too many examples of their incompetence. It is therefore almost with an involuntary "At last!" that we have read this book, for we have found it what it purports to be and what it should be, a thorough, systematic, and proper book for the use of the student-nurse and one, notably, which keeps "as near as possi-



ble to the neutral line between medicine and nursing" (preface).

The book is published in two volumes, a provision for its use in the two-years' course now generally demanded in training schools for nurses, and each volume contains thirty chapters, a provision for a weekly lesson for each of the usual thirty recitation weeks of the year. This arrangement is certainly an excellent one, and clearly renders the book more adaptable to the uses of most schools, while it does not in the least interfere with adaptation to other courses of different arrangement.

To describe minutely the field covered by the book would obviously be a lengthy undertaking and, too, one of no practical service. A brief description will amply suffice. Volume I deals with human anatomy and physiology as well as hygiene and, finally, the observation of symptoms. Volume II continues the theme and treats of therapeutic applications proper for the nurse's knowledge, as well as of morbid conditions and the information on them suitable for a nurse. The concluding chapters treat of pregnancy, labor, infantile nursing, and gynecological nursing, and are well in keeping with the rest of the work. The tone of the book throughout is commendable in the highest degree, and the nurse is provided only with information which is justly and properly hers, to the end that she may be a valuable and useful member of the community and not a nuisance. The book does not attempt to replace practical work and bedside training; on the contrary, it is merely complementary to them. It is not a book designed for self-education as a nurse (of the nursing-made-easy class), but simply and only for use in properly conducted training schools.

The clearness and the simplicity which mark its style are delightful, and the nurse who can not gain instruction, benefit, and pleasure from its reading must indeed be dull. We are in every way pleased with this work and may be pardoned if we show for it some unusual enthusiasm, for the matter which provokes it is unusual. The work has our cordial recommendation, and our only regret is that the illustrations should be so crude and therefore jar amid so much that is excellent.

*Water and Water Supplies.* By JOHN C. THRESH, D. Sc. (London), D. P. H. (Cambridge), etc. Philadelphia: W. B. Saunders, 1896. Pp. xv-431. [Price, \$2.25.]

To those interested in the matter of water supply—and necessarily the class must be a large one—we heartily commend this little work, for they will derive from it a great amount of valuable and reliable information.

The opening chapter treats of water, its composition and properties, and the six chapters which immediately follow discuss rain water, surface water, subsoil water, spring water, deep-well water, and river water respectively. These chapters are, indeed, in no essential unusual, but they are very able discussions of these most important matters. Chapter VIII presents a consideration of the quality of drinking waters, and Chapter IX deals with impure water and its effects upon health. There follow chapters upon the interpretation of water analyses, upon the pollution of drinking water, and upon the much-vexed question of self-purification of rivers.

The chapters next presented are the most valuable the book contains, and their contents are both well expressed and highly instructive. The purification of

water on a large scale is the subject of Chapter XIII, and domestic purification is that of Chapter XIV. The softening of hard water and the quantity of water required for domestic and other purposes are next discussed. Chapters XVII and XVIII, dealing with the selection of sources of water supply and wells and their construction, are of great importance and value. The concluding chapters treat of pumps, of the storage of water and its distribution, of the law relating to water supplies, and of the supply of rural districts and villages. An appendix deals chiefly with various sources of contamination and pollution.

To him whose care is the management of water supply the book will be of the greatest usefulness, and to all thoughtful and intelligent readers, not medical men and sanitarians alone, it will be both interesting and instructive.

*A Text-book of Special Pathological Anatomy.* By ERNST ZIEGLER, Professor of Pathology in the University of Freiburg. Translated and edited from the Eighth German Edition by DONALD MACALISTER, M. A., M. D., Linacre Lecturer of Physic and Tutor of St. John's College, Cambridge, and HENRY W. CATTELL, M. A., M. D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections I-VIII. New York and London: The Macmillan Company, 1896. Pp. xix-575. [Price, \$4.]

The appearance of the third English edition of this portion of Professor Ziegler's master work will be cordially welcomed by all English-speaking students of pathology. An American translation of the part of this work relating to general pathological anatomy was published in 1895, and the presentation of this additional part on special pathology leaves seven chapters of the complete work still inaccessible to readers who are unfamiliar with German. It is to be hoped that the complete translation will not be long delayed; in fact, the remaining chapters are said to be now in press. We are also promised by the same house a complete Anglo-American edition of uniform style, which will be welcomed, since the translators of the part on general pathological anatomy committed the blunder of omitting the bibliography, which forms an indispensable feature of the original work.

Of the contents of the present volume it is only necessary to say, as of all the work of this author, that they present everything that is definitely known about the subjects treated of. To accomplish this, the additions necessary to the last German edition (1892), and especially to the last English edition, have been such as to require the complete recasting of the text. The work of the translator has been uniformly excellent, and the publishers have prepared an elegant and very portable volume.

*The Tonic Treatment of Syphilis.* By E. L. KEYES, A. M., M. D., Late Professor of Dermatology, Syphilology, and Genito-urinary Surgery, Bellevue Hospital Medical College, etc. Revised Edition. New York: D. Appleton & Co., 1896. Pp. x-78.

In this, the second edition of Dr. Keyes's valuable little book on the tonic treatment of syphilis, the average practitioner will perhaps find the most satisfactory general guide to the management of this disease in the English language.

The former edition of the work has probably done more to mitigate the evils that follow injudicious and



too energetic treatment in this condition than any other American text-book. Dr. Keyes's views upon this subject, however, are well known, and need no indorsement.

The present edition gives the result of the author's accumulated experience, which has served to strengthen his opinion regarding the soundness of the views originally published twenty years ago.

*The Ready-Reference Handbook of Diseases of the Skin.*

By GEORGE THOMAS JACKSON, M. D., Professor of Dermatology in the Woman's Medical College of the New York Infirmary, etc. With Sixty-nine Illustrations. Second Edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. viii-13 to 594. [Price, \$2.75.]

THE great success of the first edition of Dr. Jackson's book, and its consequent early exhaustion, have afforded the author the flattering opportunity of giving us a second edition rather on this account than by any vital need of its rejuvenation. It has enabled the writer, however, to add a considerable amount that is new, and by a careful revision to bring his book completely up to the present time. New sections have been added upon several forms of cutaneous disease.

Nineteen new illustrations have been inserted which add considerably to the value of the book. The large number of titles from foreign languages and the pronunciation of the various names, were features of the first edition which have proved as acceptable as they were then novel.

The part devoted to the subject of diagnosis is to be particularly mentioned as containing many valuable points, both for the practitioner and for the student; and Dr. Jackson's well-known *Dermatological Don'ts*, with which he concludes Part I, will always commend themselves from the combination of quiet amusement and common-sense instruction contained in their warnings.

## New Inventions, etc.

### A MODIFIED NASAL SNARE.

By SAMUEL GOLDSTEIN, A. B., M. D.,

ATTENDING SURGEON, NEW YORK THROAT AND NOSE HOSPITAL, ETC.

SINCE the introduction of the Jarvis snare, numerous modifications, *more or less costly*, have been made of the original instrument. One of the simplest, and also most practical, I have found to be that of Sajous.

With this instrument as a model, I have had added a smaller companion cannula for the application of a transfixion needle.



As clearly shown in the cut, no expensive additions have been made; on the contrary, the maker, George Ermold, has carefully adhered to my request, and has produced a simple, strong, easily cleansed, and practical instrument.

The addition of the finger rings affords the operator a firmer hold of the instrument.

166 EAST NINETY-THIRD STREET.

## Miscellany.

**Glycerite of Licorice.**—In the December number of the *American Journal of Pharmacy* there is an article by Mr. Joseph W. England in which he gives an account of some experiments undertaken by him to obtain a satisfactory liquid licorice preparation. Liquid preparations of licorice, he says, are generally the most popular products used to mask the taste of bitter and nauseous drugs, in spite of the fact that none of them are fully representative or free from objectionable features. The notoriously variable quality of commercial extract of licorice is well known. The fluid extract is acid from the resin dissolved by the alcohol of the menstruum used in making it. The official pure extract does not have the pure licorice flavor and is apt to become moldy. The purified extract of the *National Formulary* is the best product of all, but its merits are marred by a strawy taste, the probable presence of vegetable spores, and the absence of definite strength. That licorice root yields volatile principles is well known, and it is obvious, then, he says, that a satisfactory liquid licorice preparation should be one holding in solution all the desirable soluble proximate principles, free from acid resin or other undesirable products, of full odor and taste, and standardized to a definite strength. These results the author has endeavored to obtain by the following process:

Take of:

Powdered extract of licorice..	8 troy ounces;
Water.....	32 fluidounces;
Ammonia water.....	1 fluidounce;
Glycerin, a sufficient quantity.	

Sift the powdered extract of licorice upon the water and water of ammonia contained in a capacious agate-ware pan, dissolve as far as possible, and pour the mixture upon a specially prepared sand bed (to be hereinafter described) contained in a half-gallon glass funnel. Let it stand for twelve hours, or over night, collecting percolate. Then, with a small porcelain capsule, remove the gelatinized, starchy mass that has formed upon the surface of the sand bed. Add water and continue the percolation until the soluble matter in the bed has been practically washed out. Mix the percolates, note the volume in fluidounces, evaporate one fluidounce on a water bath to a constant weight, weigh, estimate the number of grains contained in the reserved percolates, and divide by two hundred and forty to obtain the number of fluidounces of a fifty-per-cent. by volume solution that can be made. Then, by means of a sand bath, carefully evaporate the reserved percolates down to *three fourths* of the estimated volume, and add sufficient glycerin to make up the volume. Care must be used, especially during the latter part of the evaporation, that the product should be frequently stirred and not be too highly heated, as it is then very readily scorched. If, during evaporation, turbidity should occur as a result of too long a heating, clearness may be restored with a few drops of ammonia water.

While the evaporation of percolates is proceeding, another lot of the licorice extract mixture may be percolated through the *same* sand bed, and the process duplicated, or a larger sand bed may be used and the process followed on a larger scale. Doubtless, when working on an extended scale, the sand bed could be made quite large; steam heat, with a vacuum apparatus, could be employed, and working details could be profitably modified.

Ammonia water is added to the licorice extract mixture to bring into solution the uncombined glycyrrhizin of the powdered extract. The excess of ammonia water is eliminated by the after-heating.

The success of the process, says Mr. England, depends upon the manipulation of the sand bed and the carefulness with which the percolates are evaporated. To prepare the sand for the bed, take fairly coarse washed bar sand, and remove sticks, stones, etc., with a No. 20 sieve. Clean the sieved portions thoroughly with washings of boiling water, and dry, heating strongly. To make the bed, place a flat piece of absorbent cotton, wetted on the under side, in the bottom of the funnel and fill the latter with the cleaned sand to within an inch or two of the top. If a larger glass funnel is used, it need not be filled quite so full, but, to a degree, the broader the surface of the sand bed used the better the results. Percolation begins quickly, but slows up in a short time. If the first portions of percolate are turbid, they should be returned to the funnel.

The gelatinized, starchy mass that is formed upon the surface of the sand bed is sometimes an inch or more deep. It is nearly black from the presence of a portion of the soluble principles of the extract. But the amount of the latter is of no practical moment, and is compensated for by the subsequent standardization. By removing the gelatinized mass before continuing percolation, the latter is made much more easy. With care, the same sand bed may be used for a number of operations.

With this formula, continues Mr. England, the mixed percolates obtained by him amounted to about forty fluidounces. More than this, he says, make no practical difference, as the solution is standardized, but it is desirable to have as small a volume as possible, in order to diminish the time of evaporation, and reduce the danger of an emphyreumatic product.

The powdered extracts used by him averaged forty per cent. of insoluble matter. The amount usually allowed by manufacturers is thirty-five per cent., but the percentage varies according to the age at which the roots have been gathered; the younger the roots the more starch they contain, and the more insoluble matter there is in the extract made from them. With a powdered extract of licorice containing more than forty per cent. of soluble matter dissolved in the quantity of water mentioned in the preceding formula, it is obvious that a denser solution would result, and it is probable that the formula given would need some modification—more water and a larger sand bed, for instance.

With regard to the standardization of the mixed percolates, says Mr. England, it is a simple matter. If there are forty-one fluidounces of percolates, and a fluidounce has been found to contain sixty grains of anhydrous extract, it is evident that there are twenty-four hundred grains of extract in the forty fluidounces reserved, a quantity sufficient to make ten fluidounces of a glycerite of licorice containing two hundred and forty grains to the fluidounce. Then, if the product is to contain twenty-five per cent. by volume of glycerin, it will be necessary only to evaporate the forty fluidounces to seven fluidounces and a half, and add the glycerin.

The product made in this way, continues the author, is a black syrupy liquid having the characteristic odor and taste of pure licorice. It is different in physical properties from the usual preparations, as it is free from any objectionable taste or ingredient, is stand-

ardized to a definite strength, and seems to have permanent keeping qualities.

**Tanosal, a New Preparation of Creosote.**—It appears from an article in the *Therapeutische Monatshefte*, summarized in the *Therapeutische Wochenschrift* for November 22d, that this new drug is a synthetical tannic-acid ester of creosote. It is described as an amorphous dark-brown, very hygroscopic powder having a faint odor of creosote. On account of its proneness to deliquesce, it can not be dispensed as a powder. It is on the market in the form of a watery solution and in that of pills. Each pill contains about five grains of tanosal, equivalent to three grains of creosote. On account of the ready solubility of tanosal, it is easily administered in water, and it is not irritating to sound mucous membranes; yet, because of its harsh taste, the solution should be freely diluted, a tablespoonful with half a glass of sweetened water.

Dr. G. Kestner, of the civil hospital in Mühlhausen, thinks that tanosal is better borne by the digestive organs than any other preparation of creosote. It seems to be excreted neither unchanged nor in the form of creosote. Kestner has used it in more than seventy-five cases. The usual dose is a tablespoonful of the solution, three times a day, gradually increased in some cases to double that amount. There have been instances in which patients have taken as much as nine tablespoonfuls in a day without any inconvenience. In three cases of tuberculous intestinal ulceration, however, the remedy gave rise to colic and diarrhoea, even in small doses. In many cases it became distasteful after being used for a long time, but generally the distaste was overcome.

Among the patients there were thirty-three with pulmonary tuberculosis, fifteen with acute bronchitis, eleven with chronic bronchitis, one with chronic broncho-pneumonia, five with bronchitis incidental to infectious diseases, and ten with simple catarrh of the throat and bronchi, and it was in the last-mentioned class of cases that the best results were obtained. Reduction of the bronchial secretion is the chief of its effects, and to accomplish such reduction it is at least equal to terpene. Its action is the greater the more recent the case, but even in cases of long standing it diminishes the expectoration and the dyspnoea. Like other creosote preparations, it sharpens the appetite. Children respond to it more readily than adults, and for them the amount to be taken daily is commonly a teaspoonful of the solution for each year of age. In phthisical cases it acts as well as any other preparation of creosote.

**Rhinitis as a Factor in Phlyctenular Ophthalmia, with its Therapeutic Consequences.**—At a recent meeting of the College of Physicians of Philadelphia Dr. B. Alexander Randall read a paper on this subject in which he said that among the many causative factors of phlyctenular conjunctivitis and keratitis, inflammatory affections of the nose must not be ignored; for they could frequently be demonstrated to be of prime importance. In the great majority of cases, hyperæmia and oversecretion of the nasal mucous membrane would be found more constant than eczema or any other of the more incidental accompaniments; and treatment limited to this alone would often bring about a cure quicker than could be effected by any local measures without it. Elaborate apparatus and skill were uncalled for. Mere illumination of the nares would usually show the condition, and simple sprays of alkaline and of oily solutions



could do much to relieve it. Calomel insufflation could be more valuable than in the conjunctiva, and, instead of the iodine being a bar to its use, its combination with mopping the pharyngeal vault with iodine could be especially efficacious. Dr. Randall said that the ophthalmologist must not neglect this field, which used to be his; and, unless he had some one at hand better prepared than himself to give it due care, he should stand ready to study and treat in his patients these simpler nasal affections.

In the discussion which followed the reading of this paper Dr. Ring stated that he had for nearly two years referred nearly all cases of phlyctenular conjunctivitis treated in his clinic at the Episcopal Hospital to the throat and nose department for nasal treatment.

Dr. Risley had been well satisfied with the results of rhinological treatment of obstinate cases.

Dr. de Schweinitz considered that in all these cases attention should be drawn to the condition of the nares. In his public clinics, when immediate nasal treatment had been impracticable, he had sterilized the nose as well as the eye by the simple remedies that he kept on hand for the purpose, and the results had been the happiest.

**Rheumatism Treated by the Local Dry Hot Air Method.**—At a recent meeting of the Harveian Society of London, a report of which is published in the *British Medical Journal* for November 21st, Dr. Knowsley Sibley presented a woman, twenty-six years old, who had been a complete cripple from rheumatism for nearly three years. Her mother and her mother's grandfather suffered from the same complaint. The patient had very fair health up to three years ago. She had never been laid up with fever or was there any cardiac lesion. She had been for many months under treatment at Bath, but without getting any better. She was sent up to London for treatment on September 30, 1896. On admission, the following note was made: "The patient has used a pair of crutches for two years, and can just manage to get about on the level with the aid of these; she can not get up or down stairs, wash or dress herself, or do her hair. She feeds herself with great difficulty, and only with a large spoon and fork, as she can not get either hand within several inches of her mouth. She can not rotate the elbows, which are nearly fixed at right angles. There is considerable thickening of the middle fingers of both hands, and grating and limitation of movements at the shoulder joints. The right knee is ankylosed nearly at a right angle; there is absolutely no movement of any kind to be elicited; the thigh and especially the calf muscles of this leg are much wasted; the patient can just touch the ground with the tip of the toes, but is unable to put any weight on the limb, and in fact can not raise it off the bed when lying on her back; there is constant pain of this joint; she wears a gutta-percha splint round it as a protection."

The localized hot-air treatment, continues Dr. Sibley, was begun on October 1st. After the second application it was possible to rotate the left elbow, and after the third the patient was able to see the palms of both hands, which she had not done for two years. After the sixth bath she was able to do her front hair, and after the tenth she was able to walk a few steps without her crutches, and there was distinctly some movement to be obtained in the knee joint. She had now had twenty-seven baths, and could get her left hand all over her face, head, and neck, and get up and down stairs

with ease. There was now a fair amount of movement in the right knee joint; the patient could flex and extend it some few inches. All these results had been obtained without at any time putting her under an anæsthetic and breaking down the adhesions, as was originally suggested; and at no time had she any pain or effusion in any of the joints under treatment. Before and after each application of the dry air, which was heated to a temperature of 260° F., the limbs were gently manipulated and massaged. She had been taking some syrup of the iodide of iron, and the bowels were regulated with Condal water.

**A Case of Recovery Twelve Hours after the Ingestion of an Ounce of Chlorodyne.**—The *Lancet* for November 21st publishes the following account of a case which came under the observation of Mr. Thomas Massie: The author was called one morning at 11 o'clock to see a man who was said to be dying from the effects of poison. He was a mechanic, forty-five years of age, was muscular, and looked strong. The previous afternoon he sent for an ounce of chlorodyne, took a few drops of it for a cough, and then went out for the evening. He returned home about 11 P. M. the worse for drink, and before going to bed drank all the chlorodyne, the empty bottle being found at his bedside when his wife made a fruitless effort to wake him up next morning about 10 o'clock. The author found him deeply narcotized. The pupils were much contracted, the breathing was slow, labored, irregular, and noisy, and the pulse was thready and weak. The skin was clammy, the limbs were cold, and the face was cyanosed. Mr. Massie injected two-fifteenths of a grain of apomorphine hypodermically and applied strong solution of ammonia to the nose, but without any result. He then injected about a pint of strong hot coffee mixed with eight drops of solution of sulphate of atropine (B. P.) into the bowel. This produced a marked improvement in the color of the face, the pulse, and the respiration. He now introduced the stomach siphon and washed out the stomach with a quart of strong hot coffee. The author states that he could detect the odor of chlorodyne in the washings. He repeated the process, using the same quantity of coffee. The patient by this time began to show signs of consciousness. Strong solution of ammonia was now assiduously applied to the nose with excellent results. Soon the patient was able to get out of bed and, supported on either side, walked about the room for two hours, drinking large quantities of coffee meanwhile. At the end of six hours, although drowsy, he was out of danger, and next morning he was nearly well.

**The Legal Value of Dying Declarations.**—In the *Boston Medical and Surgical Journal* for November 26th Dr. Daniel March, Jr., of Winchester, Massachusetts, remarks that dying declarations, as defined by the American and English cyclopædias, are statements of homicide made by the victim under the solemn belief of impending death. The effect of such belief is regarded as equivalent to the sanctity of an oath. Declarations so made are substitutes for sworn testimony, and they must be such narrative statements as a witness might give on the stand if living.

The importance to the physician or medical examiner of a knowledge of the subject of dying declarations, he says, was impressed upon his mind by a case of death from criminal abortion which occurred in his district about a year and a half ago. In this case the



accused was brought to trial and convicted. During the trial dying statements of two different persons were offered in evidence. In one case this evidence, if admitted, would have been favorable to the accused; in the other, to the prosecution.

Dr. March thinks it is important for the physician in attendance upon a woman likely to die from the results of a criminal abortion to have clearly in mind his legal position and responsibilities. He quotes as follows a few of the acknowledged principles which have a bearing upon such cases: Dying declarations are accepted in law without being sworn to. It is naturally presumed that all statements made at such a solemn crisis must be sincere, believed at heart to be true by the dying person, even if subsequently shown not to be so.

The attending physician under such circumstances having expressed the opinion that the patient is dying and in sound mind, a magistrate should be summoned to take down the statements that the dying person may wish to make. Should it not be possible to obtain the services of a magistrate, then the attending physician can take down the dying declarations. The physician should, however, limit himself to writing down the exact words of the dying person, without offering any interpretation whatever. The statements should be read over to the dying person, and, if possible, her signature obtained.

The declarations must be made, not simply *in articulo mortis*, but under the sense of impending death, without expectation or hope of recovery. They are admissible even though others may not have thought the person would die.

The declarations may be signs or other appropriate modes of communication. It is not necessary that the examination of the dying person should be made after the manner of interrogating a witness in the case, although any departure from that mode may affect the value and credibility of the declarations. It is no objection to their admissibility that they were made in answer to leading questions, or were obtained by pressing and urgent solicitation, but the declarations must be made under a sense of impending dissolution. It does not matter that death failed to ensue until a considerable time after such declarations were made.

Declarations of a deceased person are admissible only in reference to those subjects to which she would have been competent to testify if sworn in the case. They must, therefore, in general, speak to facts only and not to mere matter of opinion, and they must be confined to what is relevant to the issue.

The circumstances under which the declarations were made are to be shown to the judge, and it is his province and not that of the jury to determine whether they are admissible.

If the deposition of the deceased has been taken under any of the statutes on that subject, and is inadmissible as such for want of compliance with some of the legal formalities, it seems that it may still be treated as a dying declaration if made *in extremis*.

**Itching and the Itch.**—In a recent number of *La Médecine moderne*, the frequency with which formulæ are published in American medical journals for the relief of pruritus vulvæ is made a subject of comment. The question is asked whether there are peculiarities of race, climate, or environment which tend to make the affection so prevalent among American women that editors have become possessed of the necessity of bringing

the matter forward so frequently in their publications. We do not know how others may account for the fact that pruritus vulvæ receives so much attention at American hands, but our itch editor, to whom we referred the matter, informs us that personally he is a great admirer of French journalism, and constantly flatters French editors in the sincerest way by imitating them. Now, as every one knows who reads the Paris journals, it would be considered an unpardonable oversight for an editor to send out a weekly issue which did not contain the recipe for at least one *pommade contre la gale*.

Having little or no scabies in this country, and much more pruritus scribendi than any other variety, these formulæ are reproduced and made to do service under the faked caption of "pruritus vulvæ."

Now, will our esteemed friend of "modern medicine" enlighten us upon the prevalence in France of *la gale*, to which his own and his contemporaries' journals devote so much attention?—*Medical Record*.

**The Antistreptococcus-Serum Treatment in Rebellious Purulent Streptococcic Dacryocystitis and in other Ocular Streptococcic Infections.**—At a recent meeting of the Société de biologie, a report of which is published in the *Presse médicale* for November 18th, M. Boucheron said that a large number of cases of purulent dacryocystitis were produced by the presence of streptococci, as the recent bacteriological researches of Widmark, Parinaud, and Morax, as well as his own, had proved.

Streptococcic dacryocystitis, he said, appeared to be of frequent occurrence, for streptococci had been found in the majority of the observations published; these, however, were nearly always serious cases.

Purulent streptococcic dacryocystitis was a definite type, characterized by the presence of streptococci in the pus, by the occasionally recurrent phlegmon of the lacrymal sac, by the persistence of suppuration after the acute stage, by the lacrymal conjunctivitis, also frequent, and by the streptococcic rhinitis, which was perhaps still more frequent. Constriction of the nasal canal often preceded and nearly always accompanied suppuration of the sac.

The most rebellious cases were those in which the suppuration of the sac was prolonged after the acute phlegmons in spite of the surgical and antiseptic treatment in use at the present day. In the attenuated forms the suppuration disappeared spontaneously.

For the rebellious cases the antistreptococcus-serum treatment was especially indicated. A hypodermic injection of five cubic centimetres of Marmorek's serum, administered three or four times at intervals of a few days, would cause the subsidence of the suppuration of the lacrymal sac, of the lacrymal conjunctivitis, and of the rhinitis in a short time, without any other treatment.

M. Boucheron cited the case of a woman, thirty-nine years old, who had been troubled with watering of the eyes for four or five years. She had had a primary phlegmon of the sac during pregnancy, as well as three other phlegmons during a period of fourteen months, in spite of the treatment employed. The first hypodermic injection of Marmorek's serum, which had been administered for the persistent suppuration, brought about a considerable amelioration; a second injection two weeks afterward had caused the disappearance of the rest of the pus and of the lacrymal conjunctivitis, and considerably ameliorated the rhinitis. A third injection eight

days later had been made in order to promote these results.

In the local streptococcal infections of the ocular organs, which were capable of producing complications at the time of operations for cataract or other operations, and when there were ocular traumatism, the antistreptococcus-serum treatment might be employed as a preventive. M. Boucheron, in a former communication to the Société de biologie, had related the case of a diabetic patient with cataract, in which he had employed the serum treatment as a preventive, and shortly afterward he had been able to perform an operation without complications resulting. The patient had also presented lymphangitis of the legs.

In the purulent complications which occurred in operations for cataract, of which the streptococcus was often the cause, the serum treatment was indicated if the microscope or the cultures revealed the presence of streptococci.

The conditions for serum treatment were more favorable in local streptococcal infections in which the general condition of the patient was good; in which the dose of serum could be reduced one half, and in which the injections could be given far enough apart to prevent all danger.

**Snake Bite Treated by Antivenene Serum, with Recovery.**—In the *British Medical Journal* for November 21st Surgeon-Major S. J. Rennie, of Meerut, India, relates the following case which, he says, is of interest because it was one of the first cases in which Professor Calmette's antivenene serum was used:

About 6.30 P. M., on September 21st, a Hindu boy, aged eleven years, son of a groom, was drawing water from a well, and in returning accidentally stepped on a snake which bit him on the right foot, the foot being bare at the time. Two men were with him who both saw the snake, but they were unable to kill it before it disappeared in the grass. They promptly bound the end of a pugaree tightly round the boy's leg, and, picking him up, ran with him to the author's quarters. Not more than three minutes had elapsed from the time he was bitten until the author saw him.

The typical imprint of a snake bite, with its two deep fang punctures and the crescentic row of small teeth marks between, was clearly seen on the inner side of the right foot. Mr. Rennie at once injected eight cubic centimetres of Calmette's antivenene serum into the subcutaneous cellular tissue of his abdomen. At the same time Surgeon-Major Birt, A. M. S., treated the wounds and their immediate neighborhood with a hypodermic solution of permanganate of potassium, after which they were carefully washed and dressed. The patient was then placed under observation and seen from time to time during the evening, but he never had a bad symptom, and is now running about as well as ever he was.

There is, no doubt, says the author, one weak point in this case—namely, that the snake was not killed, and that, therefore, there might be an element of doubt as to the nature of its species. The reptile, however, was clearly seen by both men who were with the boy, who gave an accurate description of it, and recognized it as a krait (*Bungarus ceruleus*), that most deadly and dangerous Indian snake. The characteristics also of the wounds were clearly those of a bite from a snake with fangs. Mr. Rennie states that his own personal observation led him at once unhesitatingly to conclude

that the injuries were caused by a poisonous snake, and in this he was borne out by the unanimous opinion of the five medical officers by whom the case was seen, several of them of long and varied experience in India. Taking all these points into consideration, there can, he thinks, be little doubt that the boy was bitten, and bitten savagely and deeply, by a krait, a bite from which, under ordinary circumstances, is necessarily fatal.

**The Treatment of Anal Fissure.**—In the *Journal des praticiens* for November 14th M. Floersheim remarks that the treatment of this disease is above all surgical, although in simple cases medical treatment may be resorted to at first. The number of remedies employed for the cure of anal fissure, he says, is considerable, and their frequent inefficacy has been sufficiently testified to. Among those advocated by different authors, Trousseau and Bretonneau recommend the following enema which is used at the present time:

- R Extract of rhatany..... 90 grains;
- Alcohol, enough to soften it;
- Water..... 4 ounces.

M.

Other preparations which seem to succeed more frequently are the following:

- 1. R Extract of rhatany..... 8 grains;
- Morphine hydrochloride..... 0.3 grain;
- Cacao butter..... 60 grains.

M.

This quantity makes one suppository. Cocaine may be substituted for morphine.

- 2. R Extract of belladonna, } each 75 grains;
- Neutral acetate of lead, }
- Lanolin..... 450 "

M.

The part is to be anointed with this from two to three times a day.

Antipyrine, given in an enema, is sometimes efficient in the following form:

- R Warm water..... 4 ounces;
- Antipyrine..... from 30 to 60 grains;
- The yolk of one egg.

M.

Repeated warm baths or cold enemata may also be used with advantage.

Unfortunately, says M. Floersheim, it is rare to record a definitive success from purely medical treatment; cauterization with silver nitrate, which was recommended by Lenoir, is but a palliative measure which should be rejected because of the pain it gives rise to, so that operative intervention is the only procedure that should be employed to combat anal fissure.

Forced dilatation of the anus, which was established by Récamier, says M. Floersheim, is certainly preferable to all other methods. It is extremely painful, however, and it is necessary to anesthetize the patient with chloroform, or to practise local anesthesia with a fifty-per-cent. solution of cocaine hydrochloride, which is injected around the anus. M. Floersheim states that he has used the latter means and finds that it is sufficient to prevent all pain, provided an interval of five minutes is allowed to elapse before dilatation is practised.

Anal dilatation, continues M. Floersheim, rapidly suppresses pain and spasm of the sphincter, and unfavorable results rarely follow this method; if the operation is not successful, nothing remains but to practise incision, according to Boyer's method, or, better still, excision, cutting with curved scissors around the



fissure and bringing the lips of the wound together with catgut or silk.

**The Action of Chloralose.**—In the December number of the *University Medical Magazine* Dr. James Tyson states that he was induced to make a trial of chloralose after reading a paragraph on its importance as a hypnotic in Dr. George William Balfour's *The Senile Heart*, page 285. At the time, he says, he had under his care a patient with the most obstinate insomnia, for whom he had used ineffectually sulphonal, chloralamide, chloral, trional, and paraldehyde. He ordered for him ten grains of chloralose at bedtime. The effect seemed magical. He went promptly to sleep and slept soundly until morning, awaking much refreshed, and without any of the unpleasant feeling so often consequent on the use of remedies of this class. The dose was repeated the next night and the next with like effect. On the morning of the fourth day the patient informed the author that he had gone through some strange performances in the night; that he had unconsciously removed all his clothing and found himself stark naked in the morning. This experience, says Dr. Tyson, did not impress him seriously, and the dose was repeated the following night. During the night, his wife, who occupied an adjacent room, because of being recently confined, happened to enter his apartment and found him sitting on the edge of the bed, again entirely without clothing. She succeeded in getting him into bed, apparently without arousing him, and he awoke in the morning thoroughly ignorant of what had happened during the night.

A day or two later, continues Dr. Tyson, he was called upon by a friend, the son of a physician, who resided twenty miles out of Philadelphia. The son had just received a telegram from his mother urging him to come at once because of the sudden illness of his father. No particulars were given, but he begged the author to go with him, and in an hour they were at the bedside of the father, a hale, hearty old gentleman of eighty years, who said he never felt better in his life and wanted to know what it was all about. The history of the case was this: The doctor was a confirmed victim of insomnia, and had been for years. He had tried every known remedy for sleeplessness except morphine, and whenever a new one arose some one of his friends was apt to call his attention to it. Thus he had recently learned of chloralose. It had been recommended to him in five-grain doses to be taken in a cachet. He had taken it two nights in succession with the most charming effect, and was delighted with it. The day preceding the next night was stormy and he was not able to take his usual exercise out of doors. In the evening he ate freely of some favorite food; hence he had a little indigestion. At bedtime he took his five-grain cachet of chloralose, but it produced no effect. Twelve o'clock came, but no sleep. He then took half of another cachet, which was also without effect. In two hours he took the remaining half of the cachet. In the morning his wife found him asleep, breathing stertorously, and could not arouse him. She became alarmed and telegraphed for his son. A little later he awoke, feeling very well and thoroughly unconscious of anything unnatural. His wife thought it best, however, to keep him in bed until the physicians arrived.

These cases and others of which Dr. Tyson gives an account were among his earliest experiences with chloralose, which he states he has learned to value high-

ly, for he believes that all the mishaps, which occurred so near together that he could not profit by any one separately, are explainable. First of all, he continues, his first dose was needlessly large, although it was determined by a published statement that thirty-one grains might be given without inconvenience. The dose recommended by those who have made extensive trials with the drug is from a grain and three quarters to fifteen grains, and Haskovec, who has used it largely in cases of insanity, states that the dose should not exceed fifteen grains. Dr. Tyson says that after his own experience with the drug he would under no circumstances advise a dose as large as fifteen grains; on the other hand, a grain and three quarters seems entirely too small for adults. From three to five grains, more generally the latter, he thinks, is nearer the correct dose.

Since the experience related, he has employed chloralose for insomnia a number of times, and believes it to be a valuable drug for that state. Certain precautions must, however, be taken to secure its activity. The most important of these is that it should be given in solution. If it is administered in a cachet or an uncovered powder there are a certain number of chances that it will lie in the stomach for some time undissolved, and therefore fail of its effect, while if the dose is repeated there are more chances that the two doses will act conjointly, and some one or more of the unfavorable effects alluded to succeed. It is most readily soluble in hot water, but may also be taken dissolved in hot milk, and perhaps this last is the best method of administration. It is, however, bitter in solution, and if this quality is objectionable a cachet becomes the next best vehicle.

The class of cases to which it is best adapted is, continues Dr. Tyson, undoubtedly the simple insomnias, since it is not, in any high degree at least, an analgetic. It has been largely used abroad in insane asylums for its effect upon the excitable insane, but he has used it in the insomnia of heart disease and Bright's disease. Its advantages are its promptness of effect when properly administered and the absence of unpleasant results the next day, and especially of the prolongation of the soporose effect into that day, so often incident to hypnotics; there is no headache. Dr. Tyson says that he can not deny, however, that the former effect has occurred, especially in cases of valvular heart disease, where absorption is often slow because of the passive congestion of the stomach. Such effect has been, however, a simple drowsiness.

He adds also that in addition to those met with by himself, other unpleasant effects of the drug have been noted by clinicians, especially when it has been employed in tuberculous consumption. Thus, in the case of a patient to whom Rendu gave a four-grain dose, he was called in two hours to find her "insensible, the pulse 180, the movements of the heart imperceptible, and with epileptoid movements of the limbs. The skin was covered with cold perspiration, and death seemed imminent." She was revived by hypodermic injections of ether, and the convulsions were controlled by a twenty-fifth of a grain of morphine injected hypodermically. She returned to consciousness without any knowledge of what had occurred. Similar results are reported in other cases of tuberculosis from doses of from three to six grains. Such effects from the smaller of these doses seem, says Dr. Tyson, in the light of his experience, surprising. But in this disease, especially where there is great debility, the drug is best avoided. Hysterical



symptoms may be induced by it which must not be mistaken for more serious effects. Quieting effects may be expected in the convulsions of tetanus. In fact, such effects are reported.

**The Wearing of Veils and its Effects upon the Eyesight.**—The *Boston Medical and Surgical Journal* for December 3d publishes an article on this subject, by Dr. Casey A. Wood, in which the author remarks that, although we hear and occasionally read of the ill effects produced by veils upon the eyesight, very little has been done in the way of determining the exact degree of interference with vision which these ornamental and occasionally useful protectors bring about.

The fact that the wearing of veils is productive of weak eyesight, headaches, and sometimes vertigo and nausea is, he says, within the experience of every ophthalmologist. Not only are these effects produced by the eye strain consequent upon the added efforts made by one or both eyes to see through or around an obstruction, but the irregular figuring on the veil itself is, in some instances, a source of annoyance to the wearer. As in other cases of abuse, the author remarks, the burden rests heaviest upon the weakest eyes, and probably the reason why one encounters so comparatively few instances of asthenopia directly due to veil-wearing is that the embarrassed eyes are able to overcome the additional strain where the vision is normal, the oculo-muscular system in proper equilibrium, and the general health good.

Dr. Wood had a dozen typical specimens selected for him for the purpose of demonstrating the extent to which veils of various kinds influenced the eyesight, and made a number of experiments with them, the most important of which he gives an account of, with the following results:

1. Every description of veil affects more or less the ability to see distinctly, both at a distance and near at hand.
2. The most objectionable kind is the dotted veil, although the influence of this variety for evil is more marked in some samples than in others.
3. Other things being equal, in undotted and non-figured veils, vision is interfered with in direct proportion to the number of meshes to the square inch.
4. The texture of the veil plays an important part in the amount and kind of eye strain produced by the veil. When the sides of the mesh are single, compact threads the eye is embarrassed very much less in its effort to distinguish objects than when double threads are employed.
5. The least objectionable veil is that without dots, sprays, or other figures, but with large regular meshes made with single, compact threads.

It is not a necessary consequence of the wearing of veils that eye symptoms should result, continues Dr. Wood, for a healthy eye in a healthy body resists the strain of an impediment to vision just as it does other deleterious agents; and it is only when from other causes the eyesight is weakened that the wearing of an objectionable veil proves immediately and obviously hurtful. Dr. Woods states that he has noted many cases of headache and painful vision, as well as other ocular symptoms, produced by veil-wearing in persons whose eyes are not overstrong; and he believes that this practice is one of the agents, not perhaps always recognized, that contribute to ocular discomfort, and it is not the part of wisdom to compel our visual organs to overcome unnecessary obstacles in the effort to see.

It has been urged in defense of veils, he says, that they are often required for the protection of the face, to keep the hair in order, or to retain the hat in place. If the happiness and comfort of members of the gentler sex are thus bound up in veil-wearing, he adds, they should at least give preference to those veils that do the least harm.

But what excuse can be urged, he asks, for that not uncommon offense, the attempt to read through this unnatural screen? And yet such exhibitions are of every-day and every-night occurrence in places of public resort—street cars, railway trains, churches, theatres, concert halls, club rooms, etc.—thus adding to the injury of defective distant vision the insult of eye strain for near work.

**Veratrum Viride.**—In the *Journal of the American Medical Association* for December 3d Dr. John M. Batten remarks that veratrum viride slows the heart's action and makes it feeble. It was first used by Magendie and Andral in physiological experiments in 1821. Bardsley first used it in rheumatism and dropsy in 1826. The curative effect of veratrum viride lies in its influence on the heart to retard its action in acute inflammatory diseases in which the pulsation is very much accelerated. Dr. Batten states that he has been able to produce the physiological effects of the drug in cases of inflammatory diseases with a dose of Norwood's tincture, not larger than three drops, every three hours. By this dose he has been enabled to reduce the pulse beat twenty or thirty in a minute, especially when the high pulse rate has been caused by inflammation. In inflammatory rheumatism he has had good results with this drug by keeping the pulse at or near the normal until convalescence began. In the early stages of measles, scarlet fever, and in some cases of small-pox, it acts favorably in governing the heart's action. In typhoid fever where the heart's action is irregular, he has thought that this drug in drop doses aided in steadying it. For this purpose he has, in the treatment of typhoid fever, continued the use of the drug in drop doses until convalescence set in. In all acute inflammatory diseases of the chest it is an excellent remedy; in acute pneumonia, pleuropneumonia, and pleurisy. If in acute pneumonia the pulse can be kept at or near the normal by this drug in the stage of congestion, the author states that we may often be able to jugulate it or prevent it from entering upon the hepatization stage. Even in a sthenic case in the second stage veratrum viride acts well. The heart's action is lessened without loss of blood as in venesection.

Dr. Batten refers to a paper entitled *Should we Bleed or not Bleed in Acute Pneumonia?* which was read by a gentleman before the American Medical Association in 1893. In the discussion of the paper, he says, opinions were diverse. One gentleman advocated veratrum viride in the treatment of acute pneumonia. He had such entire confidence in the treatment of the disease with this drug by keeping the pulse at or near the normal, that he made the bold assertion that all cases could be cut short by this mode of treatment.

Dr. Batten gives the histories of two cases, in the second of which the patient had an attack of heart failure caused by the cumulative effect of the veratrum viride, and he states that it is his opinion that the failure of the heart acted favorably on the course of the disease, as the turning point seemed to be established at this time. In each of the cases he enveloped the chest in an oil-silk jacket.

## Lectures and Addresses.

### LECTURES ON ANGINA PECTORIS AND ALLIED STATES.

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#### LECTURE VII.—DIAGNOSIS, PROGNOSIS, AND TREATMENT OF ANGINA PECTORIS.

(Concluded from page 768.)

**TREATMENT.**—"The first and great object of the practitioner on being called on to treat a case of angina will be to make himself acquainted with its individual character. Beginning with the early history of the disease, he will trace it to its present stage, and will endeavor, from the narrative of the patient and from the observation of the whole phenomena presented to him, to form a clear judgment respecting the local condition of the organs in which the characteristic symptoms have their site, and the state of all the other parts of the system which can in any way influence these; in other words, he must endeavor to ascertain the species or variety of angina, according to the distinction formerly pointed out." This clear statement of Sir John Forbes forms a fitting introduction to the discussion of this part of our subject. Successful treatment depends often upon correct diagnosis; but there are cases of angina pectoris brought to the consultant in which diagnosis and prognosis in themselves constitute the treatment. To a man who has felt that judgment has been given against him, the doom pronounced, and whose mind is haunted with the dread of sudden death, the assurance that the condition is functional and curable comes as a reprieve, and may be the one thing necessary to effect a cure.

**True Angina.**—Determine in the first place, if possible, the existence of any constitutional disease, as syphilis, gout, or diabetes, and the presence or absence of valvular lesions.

(a) **General Management.**—Inquire carefully about the exciting causes of the attacks, which differ in different cases. Usually the patient has learned by bitter experience his limitations in certain directions, and knows much better than you can tell him just what to avoid; but you can emphasize the importance of mental worry, exercise, and diet, the three chief factors. Quiet of mind, avoidance of worries and cares, the cultivation of a calm equanimity—with these, or such like phrases, we try to impress a poor victim who to previous anxieties has now the added burden of a disease the terrible character of which he can appreciate but can not understand. Our words often seem a mockery, and yet they may be helpful in persuading a man to cast off all unnecessary business and to live a life in which there shall be a minimum of friction. Time, too, with its

soothing deception, comes to allay the access of early apprehension, and as succeeding attacks pass there may be less and less mental distress. An important question arises here, Shall a man with angina give up his business? In a majority of cases this sacrifice is unnecessary; the literature abounds with examples of men who, like John Hunter, have done the best work of their lives after the onset of angina. There is so much uncertainty that no rule can be laid down; each individual case must be considered separately. The patient's age, occupation, and, above all, the condition of the vascular system, must be taken into account. Even after a most severe attack, followed by a cardiac breakdown of several months' duration, a man may be able to resume work, and, as in Case V, referred to in Lecture III, be benefited by the steady occupation.

**Exercise** must be taken within the limits which each individual soon learns to recognize. In severe recurring attacks induced by slight muscular efforts, a period of absolute rest should be enjoined. The sudden, quick movements which rapidly increase the blood pressure and throw a strain upon the heart are the most dangerous; and most of all those with which are associated strong emotions. The patient should be urged to walk on the level, in the literal as well as metaphorical meaning of the phrase. He should learn "to live within the income of his circulation," with which wise saw from the lips of the late Dr. Sibson a friend with organic heart disease has been comforted and sustained for a quarter of a century. Steady, quiet exercise should be encouraged, except, of course, when there are special signs of cardiac weakness, in which case the resistance gymnastics of the Schott method may be tried.

**Diet** is in many cases the central point in the treatment. The subjects of angina are often men with large appetites, accustomed to eat freely of rich and strong foods. First, limit the amount taken, which in most persons above forty years of age is far too great; second, see that the quality is suitable by excluding from the dietary rich, highly seasoned foods and those which favor fermentation; and third, arrange the hours for eating. The subjects of angina are usually aware of the necessity of limiting the quantity of food and drink taken at one time. So soon as the stomach is distended there may be warnings of distress about the heart, or in aggravated cases a full meal may always cause an attack. As one patient expressed it, "Had I not to eat, I would never suffer." Light meals should be the rule in all cases; at breakfast and at midday dinner more may be taken than at the evening meal. Late suppers should be interdicted—there is "death in the pot" for angina victims, and a surfeit may be as fatal as poison.

The quality of the food is equally important. Special dietaries may be necessary for patients with gout and glycosuria, but in ordinary cases the food is to be regulated with reference to one all-important feature—



viz., flatulence. As you may remember, almost every one of the old writers laid the greatest stress upon this element in the causation of the attacks, and they were right. In dealing with the question of diet we are too apt to adopt some fad to which, with Procrustean precision, we fit every case. A more rational way is to recognize the extraordinary peptic diversity in our patients—in no respect more strikingly shown than in this very matter of flatulency. Beyond the generally accepted restriction of the carbohydrates we can not go very far without meeting individual peculiarities which have to be considered. The patient himself has to be consulted carefully. Some of you may call to mind what our distinguished colleague Dr. Smollett makes one of his characters, Matt. Bramble, say in *Humphrey Clinker*: "For my own part, I have had a hospital these fourteen years within myself, and studied my own case with the most painful attention, consequently may be supposed to know something of the matter." We are too apt to forget this. An intelligent man should be able to tell you just what articles of food cause most disturbance and produce wind in the stomach or bowels. The fault may not lie in the food, but in the inability of the stomach and bowels to digest it properly. The obese, flabby subjects of angina—not the most numerous class in my experience—and those with weak heart and arteriosclerosis are specially prone to flatulence. A few doses of blue mass, an occasional saline purge, and the use at times of a good bitter tonic keep this condition in check. The use of hot water before meals, particularly before breakfast, has been found very serviceable.

In elderly men accustomed to stimulants, hot grog at bedtime allays the tendency to flatulency, which is sometimes the cause of wakefulness, or which is apt to disturb the patient in the early morning hours. Peppermint, spirits of camphor, Hoffman's anodyne, carbolic acid, iodine, and creosote are useful for "wind on the stomach." For the intestinal flatulency a saline purge is often a good corrective; the various supposed intestinal disinfectants may be tried—salol, beta-naphthol, and corrosive sublimate, of which pilules of from one sixtieth to one thirtieth of a grain may be given sometimes with advantage.

(b) *General Medical Treatment.*—Of constitutional conditions underlying angina pectoris and capable of treatment, syphilis and gout are the most important. Genuine angina in a man under thirty-five years of age should arouse a suspicion of syphilis, and vigorous measures should be adopted. In gouty cases free elimination by the bowels, skin, and kidneys should be secured, a proper diet ordered, and at intervals a course of colchicum may be prescribed.

One patient, Dr. —, emphasized repeatedly the benefit he had derived from colchicum. Stimulants should be avoided. Glycosuria is usually controlled by diet, and rarely gives much trouble.

In a large proportion of all cases of angina pectoris the treatment consists in the administration of the iodides and nitrites, remedies which are believed to influence arterial function and arterial nutrition. The use of the iodides of potassium and sodium in this disorder has been advocated most warmly by Huchard, who states that of eighty patients with organic angina treated thoroughly by these drugs twenty-two recovered, forty-three were greatly benefited, and fifteen died.\* The iodides appear to have a beneficial effect in checking or modifying the progress of arteriosclerosis and in lowering the blood pressure. They may influence, too, arterial pain. I have called your attention repeatedly to the influence of iodide of potassium in aneurysm of the aorta, in which the relief of the pain is one of its most striking effects. While I can not say that my experience is in every way so favorable as Huchard's, I can testify to the great relief which has followed its use in many cases, and in a few an apparent cure. Cases which were thoroughly treated nearly ten years ago remain quite well, and I have had within the past three years several patients who have been greatly benefited. I usually order the iodide of potassium in doses of ten or fifteen grains three times a day. Should it disagree, which is very seldom, I give the sodium salt. Larger doses are not often necessary. If intolerance develops, stop the use for a week and begin with smaller doses. The success in treatment depends upon the perseverance with which the drug is used. On this point let me quote from Huchard's pamphlet: "One of the principal conditions of success is perseverance—constancy in the medication. The drug must be taken for a period of two to four years, in daily doses of one to three grammes, until all symptoms of angina have disappeared for many months, and I hold that a permanent and definitive recovery is not obtainable except after many years of treatment." Reasonable caution must be employed, and you would not give the iodides in patients with advanced arterial degeneration, a dilated heart, and signs of interstitial nephritis. The patients who stand the treatment well are the robust, middle-aged men in whom the angina is the sole symptom. With aortic disease, if fairly compensated, the drug may be used.

The nitrites in hypertension and angina pectoris are of value quite equal to the iodides. The nitrite of amyl is employed in the paroxysm. The nitroglycerin or trinitrin is indicated in all cases in which the tension is persistently high. Given properly, it is a very valuable remedy, but to get any advantage from its use each case must be taken by itself. In the first place, be sure that the nitroglycerin, either in solution or tablets, is fresh. The tablets containing one one-hundredth of a grain are, as a rule, reliable. It is well to begin with only one of these three times a day. The dose may be increased gradually until the patient takes four or five three times

\* *Le Traitement de l'angine de poitrine*, Paris, 1892.



a day, or even a larger dose. If the patient notices a slight glow or flush and a little sensation of fullness in the head you may know that the remedy is acting. I feel sure that in individual cases we often do not employ the drug in sufficient doses. I have never seen it do any harm. The extreme flushing and throbbing headache give reliable indications when the limit has been reached. I have given as much as thirty minims of the one-per-cent. solution, three times a day, to a case of chronic arteriosclerosis, without any disturbance. The nitrite of sodium, recommended by Hay, may also be tried in doses of five to ten grains three times a day.

Among other remedies which are useful in the general medical treatment of angina, arsenic is sometimes very valuable. Balfour advises it particularly in the weak heart of elderly people, when associated with pain of any kind. In cases of feeble heart with anæmia, iron and strychnine are most valuable remedies, and in order not to trouble the patient with too many doses, arsenic, iron, and strychnine may be given together in compressed powder or pills.

(c) *Treatment of the Attack.*—So frequently is the paroxysm excited by gastro-intestinal disturbances that the subjects of angina should not only be warned to be on their guard in this matter, but should be prepared to take prompt measures on the first indication of any distress. No doubt it was from this standpoint that W. W. Ord made the somewhat paradoxical remark that if restricted to the use of one drug in angina he would prefer sulphate of magnesium to nitrite of amyl. A patient should be told to use a saline purge or blue mass or small doses of calomel when he feels gastro-intestinal uneasiness. It frequently happens that much more prompt treatment is necessary for a condition of flatulency. He should be provided with Hoffmann's anodyne and spirits of camphor; a teaspoonful of each in some peppermint water or hot whisky makes an excellent carminative draught. The combination of morphine, cannabis indica, hyoscyamus, capsicum, peppermint, and spirits of chloroform which is now prepared either in liquid or tablet form as chlorodyne is sometimes very advantageous. In tablet form it is particularly convenient, as it may be carried in the waistcoat pocket.

For the paroxysm itself there are three remedies:

Nitrite of amyl, two to five minims, inhaled from a handkerchief, or from cotton wool placed at the bottom of a wineglass, gives prompt relief in certain cases. The patients are in the habit of carrying the remedy in *perles* containing three to five minims, which can be rapidly broken in a handkerchief and inhaled so soon as the very earliest symptoms of the attack are noticed. The introduction of this drug, in the treatment of angina, by Dr. Lauder Brunton has certainly been a great boon to many sufferers, but too much must not be expected of it. It is singularly uncertain. While in one case the attacks are promptly cut short and almost immediate re-

lief obtained, in others it seems quite inert. Curiously enough, considering that its physiological effect is in dilating the peripheral vessels and relieving the widespread angiospasm, in my experience it has been less efficacious in the vasomotor type of the disease than in cases of organic angina. It may produce its effect with great rapidity, as shown by the flushed face of the patient and the increased volume and softness of the pulse, without relieving the pain. It sometimes acts better, given by the mouth, combined with the tincture of capsicum in peppermint water.

Morphine hypodermically is the most useful drug in the attack, and if the pain is not relieved quickly by the nitrite of amyl an injection of a quarter of a grain should be given, and repeated in a half or three quarters of an hour if the patient is not relieved. In one case the nitrite of amyl failed repeatedly to give the slightest relief, but from a quarter to a third of a grain of morphine, hypodermically, never failed to allay the terrible distress, and seemed also to steady and improve the heart's action. A point about the use of morphine in angina which I have never seen mentioned except in the paper by Dr. Burney Yeo in the *Practitioner*, already referred to, is the remarkable tolerance of morphine in certain cases. In reporting Case XXXII I mentioned that this patient received between ten o'clock on Saturday night and 1 P. M. on Sunday five grains of morphine hypodermically and by the mouth, which relieved the pain but did not give him sleep. There are cases in which a hypodermic injection of a quarter of a grain of morphine given at the first indication of the attack, as a numbness in the hand or tingling in the fingers, checks it at once.

And third, in any paroxysm of great intensity, while waiting for the nitrite of amyl or morphine to take effect, chloroform may be dropped upon a handkerchief and inhaled. Balfour recommends that it be poured on a sponge in a smelling bottle, and the patient told to breathe it through the nose as deeply as possible. In a minute or two relief is obtained, and as the patient comes under the influence of the drug the bottle drops from his hand, and there is in this way no danger of an overdose. The chloroform acts much more promptly and is much pleasanter to take than ether, and I have never seen any dangerous effects from its use, even in persons with very weak heart's action.

(d) *Treatment of the Complications.*—For the syncope of serious attacks the aromatic spirits of ammonia with Hoffmann's anodyne and brandy may be given, or hypodermic injections of ether or camphor. For the dilatation of the heart and cardiac weakness, which sometimes follow the attack, the nitroglycerin with strong frictions to the limbs may favor the circulation at the periphery, while digitalis or digitalin may be given freely to stimulate the heart's action. Digitalin sometimes acts well, as in Case XXXVIII, and may be given hypodermically. No hard-and-fast rule can be laid

down regarding the use of digitalis. It sometimes acts badly, as in a case very carefully studied by W. T. Sharpless, of West Chester. Caffeine and camphor may also be employed. If all these measures seem futile, I would not hesitate to employ puncture of the heart—cardioecentesis—which may arouse to quite vigorous action a dilated and parietic organ. I do not know that this has been employed in the cardiac asystole following a severe paroxysm of angina, but there are instances on record, notably the case of Sloane (*Edinburgh Medical Journal*, vol. xl), in which puncture of the heart with a needle driven firmly into the ventricle has aroused the flagging action without apparently doing the slightest injury.

For the condition of chronic *état de mal angineux*, in which, for a period of many days or even weeks, the patient has recurring attacks with cardiac asthma and feebleness of the circulation, your resources will be taxed to the uttermost. For the dyspnea and the Cheyne-Stokes breathing full doses of strychnine, hypodermically, may be employed, from a fortieth to a twentieth of a grain, three or four times a day. Special care should be taken that the bowels are kept freely opened. The cardiac measures already spoken of may be employed, and flying blisters to the præcordia and to the bases of the lungs may sometimes give relief.

*Treatment of Pseudo-angina Pectoris.*—The measures must usually be directed to combating the underlying condition of neurasthenia or hysteria. Occasionally it happens, particularly in medical men, that the mental relief afforded by a positive diagnosis of pseudo-angina is in itself sufficient to effect a cure. Cases II and III, given in Lecture V, are good illustrations of the improvement and permanent cure, up to the present date, of attacks of maximum severity. It is not easy to say to what the rapid relief could be attributed, as the patients were given only general tonics. In other cases the attacks recur for years, as in the wife of the physician from the Province of Quebec, of whom I spoke, who had had attacks for twenty-five or thirty years. In the severe form, particularly when associated with much vasomotor disturbance, the Weir Mitchell treatment may be tried with advantage. The effects of seclusion, systematic massage, and electricity, particularly the static form, are sometimes most satisfactory. Where this is not feasible hydrotherapy should be tried, either a systematic course at some institution, or, if this is not practicable, the systematic use of the wet pack at night, followed by thorough friction, will be found advantageous. Some of these cases, particularly if treated at the patient's home, tax to the uttermost the resources of the physician. The change of air and scene in traveling will often be found of advantage.

Drugs are of uncertain and doubtful benefit. We often have to order the bromides and valerian, and in cases with much cardiac irritability and vasomotor disturbance the use of nitroglycerin in large doses seems sometimes to aid in equalizing and steadying the circula-

tion. In looking over the notes of my cases of pseudo-angina I notice this hopeful feature; that with but one or two exceptions the patients are at present not only alive and well, but free from attacks.

When the attacks of angina are due to the abuse of tobacco, the patient should give up the habit entirely. I do not think there is much risk, either, in stopping abruptly. Counter-irritation over the heart by means of the Paquelin cautery or blisters, the use of strychnine in full doses, and, if the pulse tension is high, that of nitroglycerin, are measures which will be found efficacious.

In the worry and strain of modern life arterial degeneration is not only very common, but develops often at a relatively early age. For this I believe that the high pressure at which men live, and the habit of working the machine to its maximum capacity, are responsible, rather than excesses in eating and drinking, or than any special prevalence of syphilis. Angiosclerosis, creeping on slowly but surely, "with no pace perceived," is the Nemesis through which Nature exacts retributive justice for the transgression of her laws—coming to one as an apoplexy, to another as an early Bright's disease, to a third as an aneurysm, and to a fourth as angina pectoris, too often slitting "the thin spun life" in the fifth decade, at the very time when success seems assured. Nowhere do we see such an element of tragic sadness as in many of these cases. A man who has early risen and late taken rest, who has eaten the bread of carefulness, striving for success in commercial, professional, or political life, after twenty-five or thirty years of incessant toil reaches the point where he can say, perhaps with just satisfaction, "Soul, thou hast much goods laid up for many years: take thine ease," all unconscious that the fell sergeant has already issued the warrant. How true to life is Hawthorne in the *House of the Seven Gables*! To Judge Pyncheon, who had experienced a mere dimness of sight and a throbbing at the heart—nothing more—and in whose grasp was the meed for which he had "fought and toiled and climbed and crept"; to him, as he sat in the old oaken chair of his grandfathers, thinking of the crowning success of his life, so near at hand, the avenger came through the arteries.

"With what strife and pains we come into the world we know not, but it is commonly no easy matter to get out of it," Sir Thomas Browne says; and, having regard to the uncertainties of the last stage of all, the average man will be of Cæsar's opinion, who, when questioned at his last dinner party as to the most preferable mode of death, replied—"That which is the most sudden." Against this, one in a string of grievous calamities, we pray in the Litany, though De Quincey insists that the meaning here is "unprepared." In this sense sudden death is rare in angina pectoris, since the end comes but seldom in the first paroxysm. Terrible

as are some of these incidental conditions accompanying coronary artery lesions, there is a sort of kindly compensation, as in no other local disease do we so often see the ideal death—death like birth, “a sleep and a forgetting.”

## Original Communications.

### UTILITY AND RECENT DEVELOPMENTS IN CENTRIFUGAL METHODS.

By C. W. PURDY, M.D.,  
CHICAGO.

ALTHOUGH the centrifuge has been in use for medical and allied scientific purposes for a number of years, yet its real value can scarcely be said to be fully appreciated by the medical profession at large, if we are permitted to judge of its appreciation by the extent of its present use and the scarcity of literature thus far devoted to its consideration. Notwithstanding its apparent lack of general appreciation at present, the proper utilization of centrifugal force must soon develop a principle destined to revolutionize certain quantitative chemic methods: the investigation of organic fluids, including the detection in the latter of micro-organisms with certainty and almost unerring precision, and the estimation of the different actual and proportional elements of the blood; and all with a rapidity that would seem incredible in any other than the present age. In order, however, to cover such a wide and immensely important field in the realm of medical science, greater perfection is demanded of our apparatus than that which we have hitherto possessed, since for the most part the centrifugals in use to date are chiefly efficient in dealing with the coarser sediments, and therefore their range of utility is confined to a comparatively limited field of usefulness.

For ordinary examinations of the urine and organic fluids for the coarser sediments, as cellular elements, casts, crystals, etc., the centrifugal should possess an arm of such length that there should be at least twelve inches from tip to tip of the sediment tubes; and the motor should be capable of a sustained speed of twelve to fifteen hundred revolutions a minute, which will exert a centrifugal force of from twelve to fifteen hundred times greater than that of gravitation. Very few, if any, of the motors in the market meet the above-described requirements. The rate of required speed is often attained and indeed exceeded, but in the requisite length of arm they nearly all fail; or, if the latter be attained, the requisite rate of speed is lacking.

The uses and advantages of the centrifugal in dealing with the coarser sediments, as compared with the older method by gravitation, will appear more striking in the way of contrast by first pointing out the many

disadvantages of the latter. The most serious drawback with the old method by gravitation was the necessary and inevitable delay, since sedimentation could only be secured after many hours' standing. This objection alone would long since have proved fatal to the employment of gravitation as a method of sedimentation in practical work had more rapid means been available for the purpose, because delay entailed a host of vital objections in practical clinical work, some of the more prominent of which are as follows: (a) Delay in diagnosis, often at the expense of the patient's life. (b) Chemic alterations, both in the sediment and medium, which often so altered the morphological features of the sediment as to render it unrecognizable; or the development in the medium of micro-organisms in such abundance as to obscure the microscopic field from definition of its contents. (c) In the case of crystalline deposits in the urine, delay is fatal to diagnostic purposes, since it is only by examination of urine when freshly voided, before crystals form, which are deposited from all normal urines upon long standing, that a distinction between normal and pathological crystalline deposits is possible.

The second serious drawback with the old method of gravitation was its inefficiency. Either in consequence of reduced consistence of the medium, as in highly albuminous urine, or the relatively light atomic weight of the sediment, as in the case of hyaline casts, one could never be certain in diagnostication, because negative results did not necessarily prove absence of the bodies sought for, since, for the reasons just stated, they may have failed to settle though subjected to the force of gravitation for twenty-four or more hours.

Now, a properly constructed centrifuge, capable of a speed of twelve to fifteen hundred revolutions per minute, effectually does away with all the above-considered and many other objections to the old method. The immense impetus exerted upon the sediment by a centrifugal force nearly two thousand times greater than gravitation causes prompt precipitation of morphological elements, almost regardless of their atomic weight or the consistence of the media in which they may be present. It is true, the writer has met with a few observers of unquestionable standing and experience who after trials with the centrifugal—more especially in urinary work—have preferred the old method by gravitation; but for the most part, upon investigation, the fact became revealed that they had been working with inferior centrifugals which by no means complied with the essentials just laid down for efficient machines.

By the aid of properly constructed centrifugals microscopic diagnosis of coarser sediments assumes the desirable features of rapidity and almost absolute certainty. Cases of obscure nephritis (interstitial) with impending uræmia may therewith be unmasked on the spot—often in time to avert a fatal result. Operative



surgery in many cases need only pause for five minutes until aspiration and the centrifuge permit the microscope to point to the nature of the pathological process necessitating operation, when the latter may proceed upon definite and exact lines of diagnosis to more certain success. An exact and unaltered picture of a given pathologic process as represented in the resultant sediment may be presented to the clinician with the utmost rapidity and freedom from changes contingent upon delay. In short, for all purposes of microscopic examinations of fluid media, centrifugal sedimentation by means of properly constructed centrifugals without doubt vastly outranks the older method by gravitation.

In addition to the above-named advantages, recently there has been perfected a method of quantitative bulk measurement by percentage of precipitates which can be compassed with rapidity and accuracy exceeding the ordinary approximate methods in use for clinical purposes. Valuable as all these advantages unquestionably are in practical clinical work, yet the centrifuge can not be said to have compassed its larger field of usefulness until it has included within its range practical and efficient methods for the detection and isolation of micro-organisms. That in the inclusion of this field the centrifugal is capable of development into one of the most essential of all the instruments in the bacteriological laboratory, second indeed only to the microscope itself, seems self-evident. In order to extend the range of usefulness of the centrifugal to include the field of bacteriological research in fluid media, it only requires refinement of the principle upon which the apparatus is constructed, somewhat greater perfection in detail of construction of the apparatus itself, and special appliances for concentration and manipulation of the sediment within more limited areas.

In dealing with the finer sediments, such as micro-organisms, we have to do with objects so minute as often to tax the highest powers of the microscope to recognize them; and, furthermore, they are often present in sparse numbers scattered through bulky media. It is therefore evident that certain conditions must be complied with in order to render search for micro-organisms successful with sufficient uniformity and certainty to be available for practical clinical work. The two chief essentials of the centrifugal for success in this field are (a) very high rates of speed of the motor, and (b) special appliances for concentration and fine manipulation of the sediment. It is to be greatly regretted that centrifugals have been highly recommended for purposes of bacterial search which have in no way possessed the above-described requirements. Such facts have only served to bring the centrifuge into disrepute in the very field wherein it is capable of becoming of the very greatest scientific and practical value. We often hear, for instance, of successful search for the *Bacillus tuberculosis* in the urine by the aid of centrifugals of the speed of which does not exceed a thousand or twelve hun-

dred revolutions, with relatively short arm for sedimenting tubes, and with no special provision for concentration of the sediment other than the old blunt-tipped sediment tubes. It is true that search may occasionally prove successful with such apparatus, for even moderate speed will cause precipitation of the relatively heavy pus sediments, and patient search of this pus, if from tuberculous lesions, may lead to the discovery of the micro-organisms sought for. Much time, however, is unnecessarily wasted by such roundabout methods, but they entail altogether too much uncertainty, and will, therefore, for the most part prove disappointing in practical work.

While the atomic weight of micro-organisms in general is proportionately greater than that of the fluids in which they are found, yet these fluids are often thick, viscid, and more or less resistant to precipitation of micro-organisms unless propelled by forces many thousands of times greater than gravitation, and even then special treatment of the medium is often essential for success, as with sputum, or with the urine in cases of cystitis. The range of speed required of the centrifugal to render it successful in sedimenting micro-organisms in practical work should be not less than five thousand revolutions per minute, and the arm should describe a circle the diameter of which is at least eight inches. If such a motor is supplied with proper appliances for concentration and fine manipulation of the sediment, it will give satisfactory results in practical work, and the higher the rate of speed above the range just indicated, other conditions being equal, the more efficient will be the apparatus in this special field of work.

In determining the percentage and relative proportions of the red and white blood-corpuscles by means of the hæmatocrite attachment, very high rates of speed are also demanded of the motor—at least five thousand revolutions a minute. At such speed the red corpuscles are all packed firmly at the distal ends of the hæmatocrite tubes in a column that does not materially change after two or three minutes, by further operation of the motor; and the same is true of the white corpuscles, which, in consequence of their lighter weight, occupy a second and distinct column above the red corpuscles. Micro-organisms in the blood may also be isolated and examined by the aid of the hæmatocrite tubes, and this demands still higher rates of speed for satisfactory work.

Having reviewed the range of utility as well as the possibilities of the centrifuge and the chief requirements for each special field of work, it may now be useful to glance at our present resources for meeting these requirements. Up to the present time, no successful attempt has yet been made, with a single exception to be considered later, of combining all the requirements in one apparatus. The very excellent apparatus designed by Dr. Daland, of Philadelphia, is adapted for the special use of the hæmatocrite and is fitted with

tubes for sputum examinations. This centrifugal is capable of very high rates of speed, and for the purposes for which it was designed it answers the requirements very well. A large number of hand-power centrifugals are to be found in the market; indeed, almost every prominent instrument house furnishes some such specialty. Some of these are capable of very fair rates of speed, but most of them are fitted with short arms which neutralize the power otherwise attainable by their increased speed. With few exceptions the price at which most of these centrifugals are furnished precludes the excellence of workmanship in their construction that is absolutely essential for refined work. In addition to these, centrifugals have been constructed with motors adapted for water power, the speed of which varies according to the pressure available, but thus far they have not proved satisfactory, in practical use, chiefly on account of the comparatively low rate of speed obtainable.

To Thomas Stenbeck is due the credit of producing the first electric centrifuge, although the writer was engaged in the construction of his electric centrifugal when Stenbeck's apparatus first appeared. The employment of electricity as a centrifugal motor power marks a distinct advance in the efficiency of the centrifugal for medical uses, for the following reasons: (a) It does away with hand power and renders work more easy and convenient; (b) it greatly economizes time, as the operator can go on with collateral work while precipitation of sediments is in progress; (c) it furnishes a power that can be accurately gauged, thus producing speeds of sufficient uniformity to render them available for quantitative determinations of sediments. It would seem that Stenbeck had in view only the first two of

shown in the cut (Fig. 1), is a twelve-volt motor with the arm so constructed that the sediment tubes describe a circle the diameter of which is fifteen inches; and it attains a sustained speed of six to eight hundred revolutions a minute, and the sediment tubes possess a capacity of fifteen cubic centimetres each. The sediment tubes are twelve centimetres in length and sixteen millimetres in diameter, and have a slight constriction or neck beginning at one centimetre from the tip and extending a centimetre and a half up the tube. There is no special arrangement for concentration of the sediment other than the neck of the sediment tube, and this only serves to cause currents in the fluid which often dislodge the sediment, especially when small in quantity, when the motor comes to a stop. This centrifuge is not capable of sedimenting micro-organisms in practical work, as was alleged for it, because it is incapable of sufficient speed, and even if it were capable of the latter it is not sufficiently strong to withstand high rates of speed. The arm of the Stenbeck centrifuge is only three millimetres in diameter—about as heavy as an ordinary knitting needle—while the sediment tubes are without guards, although they swing upon pivots no larger than ordinary pins. It will therefore be readily seen that strength and durability are features almost completely ignored in the design and construction of this centrifugal.

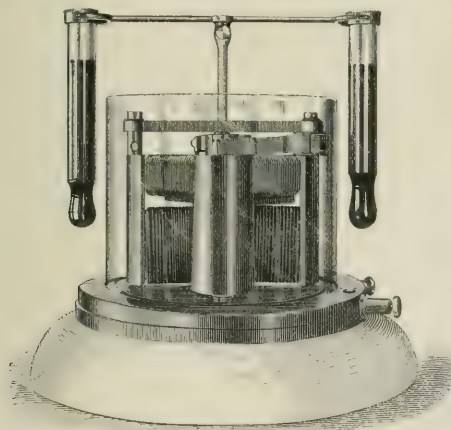


FIG. 1.—Stenbeck's electric centrifugal.

these advantages, since he failed to make any application of the third and last. Stenbeck's electric centrifuge,

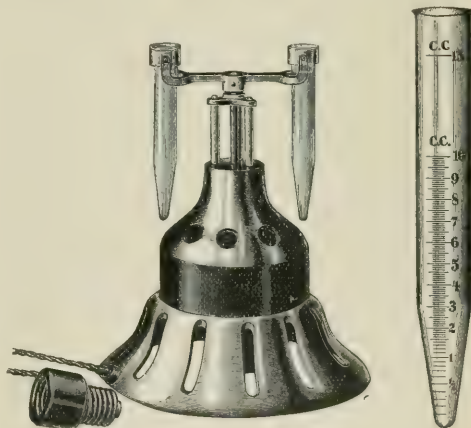


FIG. 2.—The Purdy electric centrifuge.

FIG. 3.

Profiting by the defects in the Stenbeck apparatus, after several months' experience in its use, the writer was enabled at length to greatly improve his original model and present to the profession his electric centrifuge in a highly perfected form. This centrifugal consists of a fifty-two-volt motor, the armature of which is laminated and so wound as to enable it to be operated by either direct or alternating currents, and by means of a proper resistor of about three amperes the voltage may be increased to one hundred and twenty. This

range (fifty-two to one hundred and twenty volts), it will be observed, includes the whole field in present use of incandescent illuminating currents employed for lighting buildings. This centrifugal was designed with special regard to strength and durability as well as perfect safety at the highest rates of speed—all the glass tubing being provided with metallic guards, and the arm is constructed of heavy brass metal.

The glass sediment tubes were especially designed to overcome the disadvantages of the old blunt-end and bulb-tip tubes formerly in almost universal use—exact experimentation having proved that tubes the calibres of which were from six to seven millimetres in diameter always retained precipitated sediments, however small the quantity; indeed, with such tips the sediment tubes may even be inverted without dislodging the sediment, which latter is held firmly in position by capillary force. According to the results of these experiments, the sediment tubes for this apparatus were drawn out at the tips to the length of twenty millimetres at diameters of six millimetres and a half, which served to concentrate as well as to retain the sediment. The capacity of these tubes is fifteen cubic centimetres each, and consequently a pair of them carry an ounce of fluid. Percentage determinations of sediments may be made with most rapid and excellent approximate results by the aid of the percentage tubes designed for this centrifugal which are shown in the cut, Fig. 3. These tubes have the same form and capacity as the sediment tubes already described, but are graduated to ten cubic centimetres in tenths of a cubic centimetre; hence each tenth of a cubic centimetre as marked on the scale represents just one per cent. bulk measurement. Above the ten-cubic-centimetre mark the percentage tube possesses a capacity of five cubic centimetres for reception of the chemical reagents employed in precipitating the substance desired to be measured.

In order to secure uniformity of results in determining the bulk percentage of precipitates, a uniform rate of speed and a standard length of time are absolutely necessary in operating the motor. This standard has been fixed at one thousand revolutions a minute, and the time at three minutes. This standard has been found to obtain very uniform and satisfactory results with precipitates mostly sought for in the urine and fluids of similar consistence. Rarely, as in the case of albumin, more especially when the percentage thereof is very high, greater speed and even longer time may be necessary to cause all the albumin to pack firmly so that there shall be no subsequent change in the reading of its column on the scale. In such cases it is advised to use such speed and time as are found sufficient to effect the purpose—i. e., until the column of albumin does not materially alter by further operation of the motor.

With regard to the practical efficiency of this method

of percentage determination, by way of illustration the writer would mention the fact that he has for nearly three years discarded the Esbach method, so long in use for determining albumin in his laboratory, as well as the ordinary quantitative methods for chlorides, phosphates, and sulphates of the urine, effecting the most satisfactory practical estimations of all four of these substances by means of a double arm with his electric centrifuge within five minutes' time.

At the request of the writer, Messrs. Williams, Brown, & Earle \* have recently added a special arm to this centrifuge for the use of the hæmatocrite and for small sediment tubes especially designed for bacteriological work. This arm, shown in the cut (Fig. 4), it



FIG. 4.—Special arm for hæmatocrite and tubes for sedimenting micro-organisms.

will be observed, is a modification of the ordinary arm in use for carrying the hæmatocrite tube. The greatly diminished size of this arm, compared with that in use with the larger sediment tubes of this motor, so greatly diminishes the resistance of the motor when in operation that the speed can be readily increased to the enormous rate of over ten thousand revolutions a minute, or a linear speed of five hundred and thirty-two feet a second. Such a speed exerts a centrifugal precipitating force upon sediments about eight thousand five hundred times greater than that of gravitation. In working with a comparatively bulky medium, such as the urine, where the micro-organisms sought for are comparatively few, as is often the case with tubercle bacilli, two large sediment tubes (holding an ounce) may be filled with the suspected urine and revolved until the sediment is packed in the points of the tubes within an area of, say, two cubic centimetres. The larger arm of the centrifugal may then be removed from the motor and the smaller one adjusted in its place. By means of an ordinary nipple pipette the sediment may next be transferred from the points of the large tubes to the smaller ones, and the latter adjusted in the hæmatocrite arm, when the motor can be operated at its highest speed. By this means it will be observed that the highest precipitating power of the motor is practically brought to bear upon the sediment of a whole ounce of urine within a very limited area. The more minute the sediment the greater the concentration resulting in the conical tips of the tubes. With the motor operating at a speed of ten thousand revolutions, the concentration of the sediment in two or three minutes attains almost a state of solidity. The degree of practical utility of

\* The Purdy electric centrifuge, with all accessories, is now manufactured exclusively by Williams, Brown, & Earle, 33 and 35 South Tenth Street, Philadelphia.



this method of search is best illustrated by the fact that by subjecting an ounce of fluid (such as the urine) to the centrifugal in the above-described manner, from seventy to eighty per cent. of the micro-organisms present will be found in the first two millimetres of the distal ends of the small tubes—an area of rather less than two minims. By next removing the tubes from the small arm of the motor the sediment may be manipulated with the greatest possible accuracy as well as simplicity. The tubes being fitted with movable corks at the large ends, a little pressure upon the cork will cause the sediment at its most concentrated location to appear at the points of the tubes in small- or large-sized drops as may be required, when it may be deposited upon a glass slide without possibility of waste, and it may then be examined under the microscope.\* In conclusion, then, it will be seen that the design of the Purdy centrifugal in its present form aims at (a) the rapid and efficient isolation of coarser sediments, such as those found in the urine in diagnostic examinations with such powers as two to three hundred diameters. (b) Rapid bulk percentage determinations of chemical deposits, very convenient in uranalysis. (c) Special appliances for bacterial search, whereby enormous centrifugal force may be brought to bear not only upon sputum, but also in concentrating the sediment from such bulky media as the urine, and rendering the manipulation of such minute sediments a matter of extreme simplicity. (d) Including within its range of utility the percentage determination of red and white corpuscles of the blood by means of the ordinary hæmatocrite.

With regard to the use of the hæmatocrite, its description and uses have been so thoroughly gone over by Dr. Daland, of Philadelphia, that it need not be entered into here, nor is anything new alleged for it in connection with the Purdy motor. Its adaptation to this motor is a matter of great simplicity, however, and its addition to this apparatus completes its field of usefulness, which now covers the whole scope of centrifugal work for medical and allied scientific purposes.

**The Twelfth International Medical Congress.**—Dr. Jacobi announces that the congress will be held in Moscow from August 19 to August 26, 1897. The executive committee consists of the following gentlemen: President, Professor I. F. Klein; vice-president, Professor A. J. Kojewnikow; treasurer, Professor N. F. Filatow; secretary-general, Professor W. K. Roth; and secretaries, Professor R. T. Diakonow, Professor W. A. Tikhomirov, and Professor I. I. Neyding. Dr. Claudius H. Mastin, of Mobile, has been appointed to serve as one of the members of the American National Committee. It has been announced that preparations are being made for the reduction of transatlantic steamer and European railroad fares.

\* With all other tubes for sputum and bacterial search the writer has seen, there is no provision whatever for manipulation of the sediment. Ordinary small tubing of uniform size being employed, with no provision for closing either end, the sediment is more often lost in the manipulation than secured. Such tubes are practically valueless for the purposes for which they are designed.

## A CASE OF LAPAROTOMY

WITH THE COMPLICATION OF PREGNANCY FOR DIAGNOSIS.

By M. J. SHIELDS, M. D.

VISITING PHYSICIAN TO THE CARBONDALE, PA., EMERGENCY HOSPITAL.

I SHOULD like to report a rather peculiar case that occurred in my practice, with the hope that some one will make the diagnosis—a case in which all the symptoms pointed toward septic peritonitis complicating pregnancy, in which laparotomy was performed:

On the morning of May 4, 1895, I was called to see Mrs. D., primipara, five months pregnant. She had just had a severe chill that lasted twenty minutes. I found her with a temperature of 104°; pulse 120, weak and small; face a dusky red; features drawn and countenance anxious. She complained of much pain in the left iliac region; abdomen tense and swollen; very tender on pressure, especially so over the left side; tympanitic over the whole of the abdomen. Vaginal examination revealed nothing special except that the whole pelvic contents seemed to be crowded down, as it were. Urine was of high color; specific gravity, 1.025; no trace of either albumin or pus. I saw her again in the evening; temperature normal, fever having passed off with a profuse sweat. She felt better in every respect; her bowels had moved copiously. She complained of pain on urination. Urine scanty.

*May 5th.*—Temperature normal; passed a fairly good night; abdomen still tympanitic and tender; taking some nourishment. I saw her again in the evening. She had another chill at 5 p. m., which lasted longer than the preceding one; temperature, 104.5°; pulse, 128. She complained of great pain in the left side, over the region of the left ovary. I could make out no tumor; the abdomen was more tense and swollen; she had headache and nausea. I examined the urine again, but found nothing to account for the severe symptoms.

*6th.*—Dr. Wheeler and Dr. Gilles, of Carbondale, Pennsylvania, saw the patient with me, but as her temperature was normal and symptoms better nothing definite was decided.

*7th.*—Another severe chill, followed by high temperature and rapid pulse; abdomen very much swollen and tympanitic; the patient slightly delirious. In the afternoon she had a profuse sweat; temperature below normal.

*8th.*—Very severe chill in the afternoon, with the same symptoms. Had another consultation with the above-named gentlemen, Dr. R. Burns, of Honesdale, Pennsylvania, being present. We decided that it was a case of septic peritonitis, after having gone over the case very carefully, and it was decided to open the abdomen, which was done on the morning of the 9th, the patient having a very severe chill while the preparations for the operation were being made. The temperature at the time of the operation was 103.5°, pulse, 130. Dr. Burns performed the operation in the presence of Dr. Wheeler, Dr. Gilles, of Carbondale, Dr. Graves, of Jermy, Pennsylvania, and myself, and found absolutely nothing abnormal. The uterus and appendages, appendix, and kidneys were perfectly healthy. The intestines were slightly congested, but that was all. The wound was closed, and the patient rallied well from the operation, the temperature coming down to 98.5° in three hours after.

10th.—Labor pains came on and she miscarried, having a sharp hemorrhage after the birth of the fetus, which lived a short time. She made an uninterrupted recovery. The abdominal wound was perfectly healed in ten days. In July, 1896, I was called again to see her, and found that she was again pregnant, about five months. She had irregular chills, fever, and sweats for three days, accompanied by the same abdominal symptoms, and on the morning of the third day she had a miscarriage, and made a rapid recovery as before. I examined the urine and found nothing, as before. Now, what was the cause of this train of desperate symptoms which so simulated the absorption of pus? The patient is enjoying good health at the present writing.

JERMYN, PA., October 26, 1896.

#### SUPPLEMENTARY NOTE ON A CASE OF MARTIN'S BRIDGE FOR DEPRESSED NOSE.

By CHARLES H. KNIGHT, M. D.

SINCE the publication of my paper on the Sequelæ of Nasal Syphilis in the *New York Medical Journal* for September 19, 1896, the patient whose case was therein described has returned to my clinic with an unhappy story. Everything went smoothly with him until well on in the summer, when nasal breathing began to be impeded by cicatricial contraction of the anterior nares. His condition became so uncomfortable that it was necessary, during my absence, to cut away some of the cicatricial tissue and insert a vulcanite tube. In his eagerness to keep the nostrils open the patient was in the habit of removing, cleansing, and replacing the tube several times a day, sometimes using a good deal of force. Only a few weeks of this daily disturbance of the bridge, by violent reinsertion of the tube, were needed to accomplish erosion of the skin over the dorsum of the nose. When he reappeared at my clinic the upper end of the artificial bridge could be plainly seen through a perforation in the skin. It now remains to remove the bridge altogether and be content with keeping the nostrils open, or to try to retain the bridge, and cover the skin lesion by some sort of plastic operation. In the former case the original deformity, or worse, will be established. In the latter case it may be advisable to sacrifice the patency of the nostrils, for a time at least, rather than take the risk of disarranging the bridge by putting in a nasal tube. In spite of its failure in this case, and at the risk of seeming to champion a lost cause, I still maintain my confidence in the artificial bridge in suitable cases, and would merely reiterate the conclusions of my paper, especially emphasizing the importance of removing all possibility of tension and friction at the upper end of the bridge by molding it closely to the nasal bones and by making a free dissection of the soft parts. The unusual tendency to cicatricial formations in the foregoing case may be attributed to the repeated cuttings to which the patient was subjected, combined with a persistence of the syphilitic dyscrasia, and

enforces the necessity of postponing surgical interference in specific cases as long as possible, or until the disease may have been thoroughly eliminated by treatment.

147 WEST FIFTY-SEVENTH STREET, November 9, 1896.

#### NOTES ON

#### THE TREATMENT OF DIPHTHERIA.\*

By S. HARTWELL CHAPMAN, A. M., M. D.,

NEW HAVEN, CONN.

THE question of the value of the antitoxine treatment is still undecided. While statistics seem to show that as a remedial agent it is worthy of further trial, yet the number of cases of death from its use as a prophylactic agent would cause us to withhold complete confidence.

It possibly may be therefore of interest to the members of the society present to listen for a few minutes to the report of another and older method of treatment which has seemed to be serviceable in my hands, and of which the statistics show almost if not quite as favorably as those of the more modern treatment.

My note-books give me the histories of thirty-three cases during the past twelve years—a small proportion of cases in comparison with those in the practice of many of the members of the Laryngological Society, but sufficient to enable us to formulate a fair statistical record. The cases are divided as follows: Postnasal, 2; tonsillar, 9; tonsillar-pharyngeal, 11; tonsillar-pharyngeal laryngeal, 6; laryngeal, 5. Seven cases terminated fatally—namely, 2 postnasal, 1 tonsillar, 1 tonsillar-laryngeal, 3 laryngeal.

Of the laryngeal cases, one death was due to the accident of the premature withdrawal of the entire tracheotomy tube by my assistant.

The tube needed cleaning, and while extracting the inner tube the assistant slipped the external out, and before it could be replaced death occurred by asphyxia. Six deaths then in thirty-three cases, or a little more than eighteen per cent. Of these six cases, five were seen in consultation at a stage when the disease had already become general.

In four of the eleven laryngeal cases tracheotomy was performed, with three deaths from general infection. In all of the cases seen and treated during the early stage of the disease, with the exception of one tonsillar, the patients recovered.

The method of treatment adopted was the following, the remedy used being the protiodide of mercury.

The theory of treatment by this drug was supported by experiments upon the behavior of the diphtheritic germ in the presence of numerous antiseptics, made in my own laboratory in the years 1873 and 1874.

\* Read before the American Laryngological Association at its eighteenth annual congress.

The devitalizing power of forms of mercury was found to be the greatest; and of all forms of mercury the protiodide was the most efficient. A solution of one grain to six ounces of sterilized water was the preparation used in these cases, applied in three different ways—first, by hypodermic injection into the submucous tissues surrounding the exudation; second, by deep injection into the tonsillar tissue; and third, by spray upon the pharynx and larynx.

The spray and injections were used simultaneously, a drachm of the fluid being injected two and sometimes three times a day, and the spray used in the intervals between the injections.

Not to take too much of your time, let me, in closing, give the history of three cases in the same family:

In February, 1884, Mrs. W., New Haven, aged forty-three years; well-developed membrane on both tonsils.

Son, aged fourteen years; membrane extending over the left tonsil and one quarter of the left half of the pharynx.

Son, aged six years; no development of membrane for three days; then uniform membrane showing over the entire pharynx and arch, at first appearing like a thin film of milk, but growing in twenty-four hours to a well-formed distinct membrane.

No treatment was given this latter case until the membrane became well defined—simply for the purpose of observation and experiment.

These cases were treated in the manner described, with the result that, first, no spreading of the membrane took place; second, that in twenty-four hours the membrane began to shrivel and dry, and by the end of the third day had in each case been exfoliated and expelled.

As a prophylactic, the mercury seems of some use.

I am not in the habit of isolating cases of diphtheria, but of causing other members of the family to use the spray freely during the continuance of the disease.

This is a case in point:

Child, Clara J., aged five years, March, 1886, New Haven; membrane of the pharynx and brim of the larynx.

The mother begged to be allowed to care for the invalid, although at the time she was nursing a child eight months old. This I allowed, taking the precaution to use the mercury as spray in both cases.

There was no spread of the disease.

In conclusion, let me say that I still use the remedy as described—having gained confidence in it for all cases where constitutional infection has not yet taken place.

**Bellevue Hospital Medical College.**—On Tuesday, December 15th, Dr. T. M. Rotch of Boston, lectured before the students, by invitation, on the subject of the diagnosis of the eruptive diseases of children, with special reference to scarlet fever and its complications. The lecture was illustrated with colored lantern slides.

**Changes of Address.**—Dr. John J. Quigley, to No. 255 West One-hundred-and-thirty-eighth Street, New York; Dr. William Shannon, to No. 117 West Eighty-first Street, New York.

## THE ULTIMATE PHYSIOLOGICAL UNITS OF THE ORGANISM.\*

By M. P. OVERHOLSER, M. D.,  
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IN the study of the life activities of the body we are confronted with difficulties, for we have to deal with an organism that is complex in its structure and complicated in its functions—an organism that is composed of many different kinds of tissue with manifold physiological activities.

To study the gross anatomy and functions of the different organs of the body will not give us a knowledge of the true physiological and pathological activities of living structure, for the physiological activities manifested by the complex whole are simply the sum, or rather the resultant, of the separate and independent activities resident in each of the ultimate constituents of which it is composed.

To be thoroughly familiar with the workings of any complicated structure necessitates a knowledge of the structure and functions of its ultimate parts.

Notwithstanding the complexity of the tissues and organs of the body they can all be resolved into ultimate anatomical and physiological units. Each organ or tissue is simply an aggregation of morphological elements. These primary tissue elements are alike in similar structures, but differ from each other in unlike structures. A muscle cell is not like a nerve cell, nor a connective-tissue cell like an epithelial cell, yet each cell is a unit of the organism and has a separate and independent function to perform. The complete function of any organ of the body is simply the resultant labor of the independent physiological activities of the cellular units of which it is constructed.

To thus resolve the whole of the human body into its ultimate anatomical and physiological units, and then study the structure and action of each set of primary elements of the different tissues, noting their origin and development from the primitive cells to specialized tissue, would seem to be a rational method of arriving at a solution of the physiological action of the ultimate constituents of the human organism.

But such a comprehensive consideration of our subject in a limited paper like this would not only be impracticable but impossible, for it would lead us beyond the present limits of our science and open to us for investigation many of the unexplained mysterious molecular activities of the protoplasmic cellular structures.

But as the recent progress of medical science by a more careful investigation of the fundamental principles governing the life activities of the cell has led to a new departure in therapeutics and already contributed valuable physiological products for the control of certain diseases, it behooves us to inquire into, and investi-

\* Read before the Hodgen Medical Association at Rich Hill, Missouri, October 1, 1896.



gate as best we can, the normal and abnormal action of these ultimate vitalized constituents of our being.

It is true that many of the hidden mysteries of the organism have not yet been revealed, but be it said to the credit of some of our greatest medical scientists of the day that we believe the dawn of an age of more rational and scientific medication is now approaching, and the faint illumination already observable in the eastern horizon will continue to grow brighter until the day breaks forth in the full brightness and splendor of true physiological therapy.

In the early times of the history of our science the comparison of gross structures of the body gave us important results and taught us much, but these teachings have long since, to a great extent, been exhausted, and the most valuable contributions to our science of to-day are arrived at by an investigation of the histological structure and physiological action of its ultimate constituents.

The human body is simply an aggregation of minute organic units—a mass of cellular elements—many of which have become so widely differentiated from the primary parent cell from which they came that they seem to have lost almost all trace of their primitive protoplasmic existence. These primary, definite physiological and anatomical entities exhibit all the phenomena of life. They are minute individual organisms themselves which form the basis of construction of all living matter, and from which the higher structures of all living things are derived. They are little masses of living protoplasm, or else a modified or specialized form of protoplasmic matter of a higher type of development, with definite form and function. They are not simply a conception of invisible molecular structures of atomic constitution for convenience of description and theoretical teaching, but a microscopical optical analysis of living tissue.

Not only are these primary fundamental forms of life the seat of the normal chemical or chemico-physical activities of vitalized matter, but they also play the part as chief actors in the various pathological dramas of our organism.

To lead up to the prime thought in our paper without leaving you at sea on our subject, and confusing your mind with unexplained assertions and disconnected statements of physiological facts, we will commence our study with the simplest forms of life, and gradually ascend the scale from the simple unicellular organism, with no marked obvious distinction of parts, to the complicated multicellular structure of the human body with widely differentiated structures for its various functions.

Protozoa is the name applied to the lowest grade of the animal kingdom. They are those animals which are structurally single cells, single corpuscles of protoplasm. There are two great grades of this division of the animal world—the corticate and the non-corticate.

In the corticate protozoa we have the primitive step of differentiation of structure. It is here shown by simply a peripheral modification of the protoplasm of the single cell by which it is developed into a cortical layer of denser protoplasm which is distinct from the deeper medullary protoplasm.

In the non-corticate protozoa the cell protoplasm is entirely or partially exposed to the surrounding medium as a naked, undifferentiated, viscous fluid. These forms of protozoa can engulf solid particles of food at any point on their surface or at any point of a large exposed area. On the other hand, in the corticate protozoa we find one or more definite apertures in the cortical layer of the protoplasm through which the cell must receive its sustenance. We have no tissue cells in the human body which present any close parallel to the mouth-bearing corticate protozoa. The best example of the non-corticate protozoa is the amoeba. This is a microscopic fragment of protoplasm that inhabits stagnant waters everywhere. It is a unicellular organism of an undifferentiated structure which moves, eats, digests, and reproduces its kind. It is here that we find the prototype of one of the most important histological structures of our body.

As we ascend from the amoeba we find a very simple though higher form of life in the hydra or freshwater polyp. This consists of a large number of units or cells firmly attached to each other, each cell being composed of protoplasm and in its broad features resembling an amoeba. The hydra is thus a crowd of amoebalike cells so associated as to form two layers in apposition—an internal layer called the endoderm and an external layer called the ectoderm. These layers are so arranged as to form a small tubular body, one end of which is attached to a water weed and the other extremity free for the capture of its prey. The internal layer of cells receives the food and transmutes it, preparing it in such a way that it only needs a few final touches to become living material.

There are no organs within this tubular body. Each cell, like the amoeba itself, digests what it has received in the way of food and then passes its elaborated nourishment on to the outer layer of cells, whose function is movement and feeling. Thus we find that in this simple organism its physiological labor is divided between two membranes or tissues. The prime functions of the inner layer of cells are digestion and assimilation; of the outer layer of cells, motion and sensation. These two membranes differ somewhat from each other in structure. That is, there has been a slight differentiation of the protoplasmic cells. The primitive amoebalike bodies have undergone a slight modification of structure by which they were adapted for a special function. As we ascend the scale of life the most peculiar potency which the amoebalike bodies exhibit, and which is at the bottom of all morphological results, is this force of differentiation. This power is one of the

most mysterious acts of Nature, for we find these protoplasmic cells gradually diverging from their primitive state, passing through a series of stages of gradually increasing divergence, until they reach that condition in which they present the characteristic features of the elements of a special tissue.

In the higher animals the modifications which the primitive cells undergo are so extensive that we lose sight of the primordial cellular elements from which they were developed.

This deviation of structure from the primitive protoplasmic cells in the higher animal life is in consequence of division of physiological labor. In the simple amoeba, digestion, respiration, reproduction, etc., are physiological acts all performed in one cell. In the higher animal life this labor is divided between different organs, each organ requiring a form and structure specially adapted for its work. This gradual modification then of the primitive protoplasmic cells, by which the various parts of an organism are step by step converted into special sets of morphological elements and physiological units which form organs for special function, is called differentiation. The lower the forms of animal life the less the differentiation of structure. An organ of the body is something like a machine for a mechanical or chemico-physical purpose. The work of an organ is its function. Its function is the total work of its units, and its units are simply modified protoplasmic cells—primitive forms of life that have become highly specialized structure for a special purpose.

The physiology of the higher animals is thus merely a development of the simpler physiology of the hydra, which has been rendered more complex by a greater division of physiological labor which necessitates a greater differentiation of structure. By this we do not mean to say that all living beings have come into existence by the gradual modification, through a long series of generations, of a primordial living matter, but that all animal life, whether simple or complex, is developed from a single cell, which in higher life becomes differentiated into two or more parts or germ layers from which all the special organs of that body are derived. We can thus analyze the various tissues of our organism and trace their origin through these steps of divergence from primitive to specialized tissue, and find that from the epiblast are derived the epidermal structures, hair, nails, sebaceous and sudorific glands, central nervous system, optic and olfactory organs, etc.; from the hypoblast, the epithelium of the digestive tract, trachea, lungs, oesophagus, stomach, liver, pancreas, intestines, etc.; and from the mesoblast, connective tissue, lymph glands, spleen, blood-vessels, leucocytes, peritonæum, pleura, kidney, testes, ovary, uterus, and other structures.

Thus we have in the human body many different kinds of specialized structures with as many different kinds of special functions. In short, the body is like a

great machine, with a framework of bones to give it support, with muscles to give it movement, with a force pump to drive the life blood through its channels, with numerous telegraph lines to send dispatches to and from any part of the system, with depurating structures that clear its channels of waste products, and others that receive, prepare, and pour into its canals elaborated material for its use, each part performing its special work, and the sum of the work of its special parts giving us a complete living mechanism, elaborate, intricate, yet so exact in its movements that we wonder at its construction.

In thus viewing our organism we must not become confused or misled in the study of its various physiological acts by its complexity. Nor must we seek to find in these highly specialized structures the true secret of life, for the origin of vital force or the real physiological power of an organism is not in the elements of its highly specialized structures. The office of many of the specialized tissues of the body is largely mechanical, and while they form an indispensable part of the organism in the maintenance of life, yet they concern it only in so far as a failure of their functions interferes with or retards the real life activities of the system.

These differentiated structures of high type of development—the upshot of primitive life—such as muscle cells, nerve cells, liver cells, kidney cells, etc., are subordinate organic elements with no vitalizing power within themselves, except as imparted to them by other living agents, for, “in the physiological division of labor, specialization of function is produced at the expense of the general function, and these cells in performing their special function have special adjustment to the organism, but have lost their equilibrium to the external forces,” and have become subservient dependent cells and can not, like the amoeba, maintain their own existence, complete their cycle of life, reproduce their kind, and then die.

Thus the cells of differentiated structure are not the life-giving units of the organism, but its spendthrifts, for their physiological action is but the expenditure of a vital energy which must be continually supplied them from some other source for the maintenance of their integrity and activity.

In the low forms of life the amoebalike cells take up their nourishment from the surrounding media, and by some mysterious molecular action within themselves the inert lifeless food is transformed into vitalized matter.

These primitive amoebalike bodies are thus found to be the true life-giving units of the organism from which all higher structures of that organism must derive their vital force. This vital energy can not be furnished to any organism except by these amoeboid elements, and if they are pathologically bereft of it there is no possibility ever to supply it by means of their own upshot of



differentiation of structure. The same law of life pervades the whole animal world: "For the laws of life are universal. There is no break in their continuity. They vary in degree, but not in quality. There are degrees of simplicity and complexity, according to the level upon which the particular organism rests with reference to its evolutionary ascent. From the primordial, non-differentiated, homogeneous protoplasm of the protozoon, and from the protozoon to man, vital laws present an unbroken continuity. They do not exist in the cell and cease in the individual. They do not exist in the individual and cease in humanity." (Dr. A. M. Holmes.)

So it follows that if the low forms of life are dependent upon the non-differentiated protoplasmic structures for their vitality, the higher forms of life, being under the same law, are equally dependent upon the same primary unmodified units for their life activities.

Therefore, no matter how widely these specialized structures become differentiated from the primordial forms of life, they always remain subsidiary, dependent units, and must receive their life energy for physiological action from these primitive amoeboid vitalizing agents. This opens to us a great field for investigation, for we find in the human body the analogue of these fundamental forms of life to be the white blood-corpuscle or leucocyte, which resembles the amoeba in many respects, being a microscopic mass of naked protoplasm, many of which, like the amoeba, can engulf solid particles of food at any point on their surface. It presents a central modification of its protoplasmic matter, giving it a nucleus or nuclei and nucleolus. These are the cells of our body which have departed least from the type of undifferentiated protoplasm of the lower animal life and, like the unicellular organisms, they maintain a measurably independent existence. This morphological element is now being considered the real physiological unit of the organism, and is already being acknowledged as the primary seat of all vital action and the agent through which all nutrition is accomplished.

To the action of this little individual structure, in health and disease, the leading investigators in the field of medicine are to-day turning their attention, and the enthusiastic therapist has already declared that he has here discovered the most wonderful agent of therapeutic power yet known to scientific medicine. Be that as it may, it nevertheless behooves us to keep in touch with the latest investigations and teachings along the line of therapeutic medicine, and as physiological therapy—a therapy in accordance with Nature's own methods of cure—is to-day acknowledged as the only rational, effective, and scientific means of combating disease, we should seek to understand the measures she institutes for the cure of her ailments.

In the study of the physiological activities of the body we have to deal with the forces of Nature, and, though our body be composed of a mass of organized units, it is also a continuous, ever-changing mass of

material forces. Life is not an entity, but only the name for the strife or reaction between the internal and external forces of the material world.

By various molecular changes in the organized units of the body these physical forces are displayed as life energies. The normal life forces or life energies of an organism are thus dependent upon certain molecular activities of its units. These molecular activities or reactions proceed in a definite manner, according to fixed laws which govern the interchange of molecules of different substances under certain conditions in a certain media.

Thus, in the study of the life activities of the body, we have to deal with the complicated forces of matter of which our organism is composed. This necessitates a knowledge of the construction and composition of its primary unmodified units. These first and fundamental units of life, as exhibited to us in our organism in the shape of the white corpuscles of the blood, owe their activity to a proteid substance called nuclein. This is the most important constituent of the protoplasmic bodies and the chemical basis of its nuclei. By virtue of this element the cells grow, develop, and reproduce themselves. Its function is to utilize the proteid pabulum gathered up from the blood current by the layer of protoplasm surrounding it. "Until lately we were taught that all nutritious material which had been operated upon by the digestive agents passed directly into the general current of the circulation, floating freely in the plasma of the blood till it reached the capillaries, where it was taken up by the individual cells; but recent investigations prove that these proteid substances of the blood must all report to the leucocytes and be stamped with their nuclear influence before delivery to the tissues." (Dr. Thomas O. Summers.)

"Thus, as soon as these proteids get within the walls of the blood-vessels from the organs of digestion, they are immediately attacked by the leucocytes and taken into the cell walls," where they are acted upon by the nuclein of the white corpuscles, which by a few touches soon transforms the lifeless material into a vitalized pabulum. The leucocytes then scatter throughout all parts of the circulation this "cellulized pabulum," which is taken up by the hungry cells of the several tissues to be utilized in the performance of their work. Thus the white corpuscle becomes the chief agent of nutrition and the primary source of true physiological power. It is the agent which brings about certain molecular changes or motions in lifeless material by which it is transformed into what we call living matter.

Animal life depends, in a large measure, upon the activity of its protoplasm. The more active the protoplasmic matter of its primitive units—these amoeboid elements—the more vital force and vital resistance in the organism.

The nuclear molecule of the white corpuscle is said



to be the most active molecular structure of the body and is wonderfully retentive of life, "possessing marked powers of recuperation after being partly decomposed, as shown by the fact that, after being partly decomposed by salt solution, if this solution be diluted by the addition of large quantities of water the nuclein is restored to its original form." While the function of the white corpuscle as a nutritive vitalizing agent is an all-important one, which could be dwelt upon at much greater length, yet the part it plays in the human economy as a defensive and protective agent is equally as important and essential to life.

Here is a field for investigation that grows broader and broader the more we inquire into the steps taken by these minute physiological units in the preservation of the organism—a field wherein lie many of the unsolved physiological therapeutic powers of our bodies which, when properly revealed, we believe will bring about a greater revolution in the practice of medicine than all the medical teachings of the past. Let us watch these little bodies—for instance, when an irritant seeks to gain an entrance to the blood current: "How they rush by the thousands to the breach and repel their invaders, which are clamoring to get in through a wound, by throwing up their breastworks within the gap, and how fearless and earnest is the struggle, as shown by the dead and dying of the warriors in the shape of pus corpuscles!" We call it inflammation, but it is simply an encounter between the leucocytes on the one side and the micro-organisms on the other. It is a warfare between the invaders from without and the defenders from within—a battle of the cells against the foes which threaten our physical prosperity. Metchnikoff calls it a phagocytic reaction on the part of the organism against the bacterial irritants. The *débris*, in the shape of pus and pus corpuscles, are the dead bodies of these corpuscles of protoplasm which have perished in the struggle.

Thus, as these wandering cells float through the blood-vessels, to and fro along their numerous roads and lines, in close communication with all parts of our body, "they play the part of an active sanitary department, with numerous corps of police stationed in all parts of our system, charged with the function of guarding their possessor against the inroads and attacks of enemies from without which constantly threaten us with disease and death. Thus, inflammation is not to be looked upon as an unnatural and diseased process, but as one which has a true physiological significance in that it is an effort on the part of the leucocytes to save us from the consequences of infection." (Dr. Wilson.)

If the leucocytes do not succeed in repelling the invaders which by some means gain an entrance to the circulation, they attack them with a bold front by rushing upon them and entangling them in the meshes of their protoplasm, where they are digested and assimilated as food by the corpuscles. Thus they act like the

ameba in a liquid containing numerous diatoms and bacteria. If these amœbæ are watched under such conditions they will be found to approach one of these vegetable cells, even though at a distance, and the cell will apprehend and surround it, then take it up into its protoplasm, where it is digested and appropriated to its use. "The amœba has no eyes, no nose, no volition, yet it will approach the particles fitted for its use and swallow them." This swallowing or incorporating of living bacteria by the body cells is called phagocytosis. The force that guides the amœba in its movements is exactly the same as that which governs the movements of the phagocytic cells of the human body. McFarland says that "at the edge of an erysipelas patch a most active warfare is waged between the streptococci and the leucocytes. Near the centre of the patch there are many free streptococci and few cells. At the margin there are free streptococci and a great many streptococci inclosed in leucocytes, which are, for the most part, dead. In the newly invaded tissue we find hosts of active living corpuscles engaged in eating up the enemies as fast as they can." He tells us also that in the centre of such a patch the bacteria are fortified and actively growing. In the next zone, the leucocytes which have feasted upon the bacteria are poisoned by them. Outside, the cells which are more powerful, and which are constantly being re-enforced, are waging successful warfare against the streptococci. In this manner the battle continues—the cells in the centre being obliged to yield to the bacteria and the patch spreading, while the cells subsequently re-enforce and destroy the bacteria, so that the disease comes to a termination. To Metchnikoff, who had studied the process of phagocytosis throughout the animal kingdom, we owe most of our knowledge of the subject. Metchnikoff observed a small unicellular micro-organism, the *microsphæra*, which, however, instead of being digested, multiplied within the amœba and ultimately destroyed it.

Such a struggle between the invading microbes and the protoplasmic cells of the body occurred, according to Metchnikoff, in every case of infection, ending in recovery or death as the cells or microbes were victorious. It is the principle of self-preservation, which is the law throughout the animal kingdom, for when one organism lives in or upon another and feeds at that other's expense, as an unbidden guest, without benefiting its host, there will sooner or later be a contest for supremacy which ends in the survival of the fittest.

Thus we may consider these phagocytic units of our organism as a great army of warriors whose duty it is to meet face to face these living microscopic bacterial enemies that gain entrance to our tissues and eradicate them from our system by consuming them or dragging them off to the lymphatic glands—the dumping grounds of the phagocytes—where they are arrested until they can be disposed of finally.

The more active the protoplasm of these bodies, and

the greater their number, the more likely is success in their efforts to be achieved. The most active white corpuscle of the blood is the multinuclear leucocyte. It possesses the greatest amoeboid movement and is the most active physiological unit of the body. In these various struggles of the organism against the agents that threaten it with disease and death, the multinuclear corpuscle is the chief actor on the field of battle.

These corpuscles are found to increase very rapidly in most all diseased conditions of the system. The increase in the number of these cellular units is called leucocytosis. The first physiological step Nature takes in defense of the body against pathogenic organisms and their toxins is leucocytosis. From nine thousand to ten thousand white corpuscles to the cubic millimetre is considered normal. Bouchut was the first to note an increase in the leucocytes in the blood in diphtheria, in 1868. Since then Pee, Rieder, Limbeck, and many others have found leucocytosis present in the disease. Felsenthal reported the results of the examination of the blood in eight cases of diphtheria. He found leucocytosis in all cases, reaching, in one instance, the enormous sum of 148,229 to the cubic millimetre. In pneumonia, scarlet fever, septicaemia, and in other infectious diseases where the organism has time and vitality sufficient to react against the bacteria and their toxins, we find an increase in the number of the white corpuscles.

We are told there is a relation between the number of leucocytes and the intensity of the diseased process which causes the increase. In pneumonia, it is said, a high temperature in a vigorous subject carries with it a large number of leucocytes. Some one has said that, whether we consider the leucocytes as scavengers and assume that they destroy the cocci in pneumonia, which are the source of infection, or whether we assign to the white cells a share in the production of an antitoxine, certain it is that severe cases in which there is a marked leucocytosis do better, as a rule, than similar cases in which the increase of the cells is relatively slight.

When the leucocytosis is slight, it will be generally found that the system is not reacting energetically against the infection, a condition which suggests an unfavorable prognosis. Ewing, in an article in which he gives the count of the white corpuscles in one hundred and one cases of pneumonia, says that an examination of the deaths will show that in severe forms of lobar pneumonia a slight leucocytosis is a very unfavorable sign, not one case recovering in which the disease was even of moderate severity when the number of leucocytes fell below fourteen thousand to the cubic millimetre. In virulent forms of infection, the condition confronting these white bodies seems to paralyze their action, and they become demoralized by the altered environment to which they are suddenly subjected. Then they no longer present a bold front to the enemy. They are not able to cope with their invaders and the germs run riot through the tissues.

"It is now known that without the rapid leucocytosis caused or rather occasioned by lesions and specific septic germs, no reparation can occur. Retrograde metamorphosis must be promptly met by the re-enforcing legions of leucocytes to build up the shattered walls of the citadel of life, and to meet face to face the troops of toxic germs that are ever rushing to the breach." (Dr. T. O. Summers.)

Not only do the leucocytes play an important part among the natural means of protection of the organism, by their virtue as phagocytes, but they are capable of resisting to a marked degree the poisons elaborated by these disease-producing agents. This brings us to the most important and most promising field of work for the therapist.

Pathogenic bacteria produce their effects on the organism not only by a direct engagement with the leucocytes, but by an elaboration of poisons or toxins which are scattered through the fluids of the body. It is these toxins which are often the cause of death of the organism. Some toxins are intensely virulent, others extremely feeble.

The toxins of the pneumococci are much milder than those of tetanus or diphtheria. The bacilli of diphtheria and tetanus multiply around the seat of inoculation, where there is an active warfare between the phagocytes and bacilli, while the toxins of these bacilli are absorbed and diffused throughout the organism. In septic diseases the toxins are feeble, but the bacteria play havoc in the tissues and fluids of the body. Thus we have to consider not only the power of the leucocyte to destroy bacteria or inhibit their growth, but also the power or capacity it possesses of resisting the effects of their toxins. In septic diseases the safety of the organism is dependent largely upon the number and activity of its phagocytic warriors. In toxic diseases recovery is more largely due to an elaboration by these white cells of a substance which neutralizes the poisonous effects of the toxins on the system. This brings us to an exceedingly interesting subject, the antitoxines, a subject which should interest every practitioner of medicine. I can only stop to mention a few points in connection with these new therapeutic agents, as our time is too far spent to elaborate on the recent developments in this field of work. It is truly wonderful how these protoplasmic corpuscles of the blood can adapt themselves to the different conditions of the media in which they operate. The capacity which they possess of reacting upon their various environments and of bringing about an adjustment to their surroundings seems almost unlimited and is truly one of the most wonderful acts performed by living matter. When the poisons engendered by bacterial agents circulate through the blood the media of these white bodies is changed from a normal to an abnormal condition. This change interferes with the normal action of these protoplasmic units and frequently demoralizes them to such an ex-

tent that the organism dies from what we call toxæmia.

It is only by an elaboration of a product or substance that neutralizes or annuls the poisonous effects of the toxins on the system that the integrity of the tissues is preserved. This neutralizing agent is called antitoxine, and is an entirely new substance which does not occur in the blood of normal animals. It is a protective substance that is not a product of bacterial growth, but a direct product of tissue energy—an entirely new material that is elaborated by the ultimate cells of the body. These antitoxic agents antagonize or neutralize the specific poisons of bacterial origin and thus enable the body cells to endure these injurious changes in its circulating fluids which would otherwise interfere with the normal molecular changes of its units to such an extent as to lead to death of the organism.

This new substance is said to be a product that is elaborated by the least differentiated protoplasmic units of the organism, and thus the white corpuscle again receives the credit of being the manufacturer of the various antitoxic agents required to neutralize the specific poisons of bacterial origin of the various infectious diseases. The important constituent of the white corpuscle, as stated before, is nuclein. We are told that some of the nucleins have germicidal properties more powerful than corrosive sublimate, and that the antitoxic and microbicidal properties of the blood are due to this nuclein substance furnished by the polynuclear white blood-corpuscles.

When bacteria or their toxins enter the circulating fluids of our bodies, or, as some one has said, "when the tocsin of disease is sounded through the organism, it is the rushing of the leucocytes that constitutes the first physiological response. They multiply by the thousands in a short space of time and rush to the scene of action heavily charged with these germicidal and antitoxic nucleins, the greatest weapons of defense that ever have been or ever will be wielded in behalf of the organism against the agents that constantly threaten it on all sides with disease and death."

Here lies the secret of what is called *vis medicatrix nature*—Nature's own curative powers—and here the physician must come to learn how Nature cures diseases, before he is able to administer therapeutic agents that will assist her in the work. To understand this vital resistance, its nature, and its scope, and to increase it in medical practice, is to wield a powerful weapon against disease.

Thus we find in the ultimate analysis of the organic structures of our bodies, from the units of the most highly specialized tissues to the units of simple undifferentiated protoplasm, that the most important organic elements of the organism are the unmodified protoplasmic white blood cells. They are the seat of its physiological powers and the most powerful antagonizers of its pathological conditions; the source of all its

nutrition and of all its repair; its agents of supply in times of peace and its brave warriors of defense in times of battle.

To be able to supply these bodies with the proper weapons of defense in their struggles for existence against disease-producing agents will lead to the development of therapeutic possibilities that we believe will be startling in their results and completely revolutionize the practice of medicine of the coming age. We have not the time, neither did we intend to take up the therapeutic effects of nucleins when administered in diseased conditions of the system. We shall feel amply repaid if the thoughts we have presented will be the means of leading us to investigate for ourselves the therapeutic powers of these important remedial agents.

## Therapeutical Notes.

### Wild Thyme in the Treatment of Whooping-cough.—

The *Journal des praticiens* for November 28th gives the following formula:

R Dried thyme..... 5 parts;  
Boiling water..... 12 "

M. Infuse for ten minutes, sweeten to the taste, and give a tablespoonful every hour.

**Hemicranine.**—This mixture, which we take to be intended for the treatment of hemicrania, is said (*Pharmaceutische Zeitschrift für Russland*, 1896, No. 28; *Nouveaux remèdes*, November 24, 1896) to have the following composition:

Phenacetine..... 5 parts;  
Caffeine, { each ..... 1 part.  
Citric acid, }

**The Medicinal Value of *Salvia Officialis*.**—M. Krahn, in a monograph on this subject (noticed in the *Fortschritte der Medicin* for November 15th), gives a *résumé* of the literature, and says that he has used salvia in thirty-eight cases of profuse sweating, mostly in tuberculous persons. He employs a tincture made with one part of the leaves and ten parts of alcohol, and he has convinced himself of its harmlessness by taking as much as forty drops of it twice a day for six weeks. He has generally given his patients twenty drops in the morning and from twenty to forty drops in the evening. For dispensary patients he orders an infusion made with a tablespoonful of the leaves and a pint of water, of which they take a cupful night and morning. In all but two of the thirty-eight cases it acted favorably, but the action was not sustained when it was given for weeks at a time. Fever is not a contraindication, and he has observed no unpleasant effects.

***Sambucus Nigra* as a Diuretic.**—Lemoine (*Bulletin général de thérapeutique*, March, 1896; *Centralblatt für innere Medicin*, November 28, 1896), on the strength of extensive trials on animals and in practice, warmly recommends the use of a strong maceration decoction of the "second" bark of *Sambucus nigra* as a diuretic especially efficient in dropsy when other remedies have failed and when it is desirable to keep up a diuresis that has been induced by digitalis, caffeine, or the like.



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PATIENTS' SECRETS MUST BE KEPT.

AT a recent meeting of the Medico-psychological Association of Great Britain and Ireland Dr. Mercier read a paper on alleged exceptions to the rule of secrecy. According to an abstract published in the *Lancet* for December 5th, he thought that the question of professional secrecy was most important to alienists, for to no other physicians were important secrets so often confided, but it was a matter of daily and hourly necessity for physicians who dealt with the insane to decide, often, with no time for consideration, as to the justifiability of considering a case an exception to the rule of secrecy, and yet accusations of unduly and unnecessarily revealing the secrets of their patients had never been made against alienists.

The knowledge imparted by a patient to a medical man as to his disease, said Dr. Mercier, was conceded on the implied obligation of secrecy. He impugned the dogma laid down recently that the medical man must be the sole judge of the circumstances under which the secret of the patient might be published, and proceeded to examine the alleged exceptions to the rule of secrecy. As to evidence in a court of law, he held that there were circumstances in which a man was bound to act according to his conscience, even if in doing so he incurred the terrors of the law. As to revealing the fact of a crime having been committed, he did not consider it part of the duty of the medical profession to transform itself into an auxiliary detective force, and he remarked that it was neither usual nor desirable to use against a patient information obtained under the seal of the medical confessional. As to the protection of the medical man's own wife and children, the admission of such an exception he considered would be so one-sided as to vitiate the contract of secrecy altogether, and he thought it had no foundation in principle or practice. In regard to giving information in order to prevent an impending crime, as there was no legal guidance on this question, individual judgment must be relied upon. Practically the instances seemed limited to one particular crime—viz., the procuring of abortion—as in other cases the knowledge was not usually got from the criminal. The difficulty in cases in which the malady in-

volved danger to the community could generally be effectively dealt with in ways which did not involve the divulging of a professional secret.

Dr. Mercier concluded that a medical practitioner was not under any circumstances justified in revealing the confidence of a sane patient without his consent, and with regard to an insane patient, the information obtained from him might be revealed when, and only when, it was expedient for the welfare of the patient or for the public safety. Dr. Mercier's paper was discussed to some extent, and there seems to have been practical unanimity in agreeing to the principles propounded by the author—principles which, it seems to us, can not be denied.

A RARE RISK FROM ANÆSTHETICS.

AT a recent meeting of the Berlin Society of Obstetrics and Gynecology, a report of which appears in the *Centralblatt für Gynäkologie* for December 5th, Dr. Kiefer showed a specimen of perforation of the stomach by an ulcer after anæsthetization. Four weeks after parturition, in Professor Martin's clinic, the patient had been subjected to a secondary suturing operation, presumably on the perinæum. Previous to the anæsthetization she had been in excellent condition, but she vomited immoderately after it. On the following day she was manifestly in a state of collapse, short-breathed, and complaining of a stabbing pain in the right side. The abdomen was tympanitic, but not very tender on pressure. The pulse was about 120, and there was no elevation of the temperature. She died in about thirty-six hours after the operation. In her last hours she had vomiting of bile, and seems to have gone to sleep quietly after that.

As there were no significant abdominal symptoms, embolism suggested itself at first. When the abdomen was opened post mortem the protruding coils of intestine were accompanied by an abundant escape of liquid that was of a cloudy yellow appearance and smelled aromatic and alcoholic. The peritonæum, including the serous coat of the intestine, showed recent hyperæmia, and was partly covered with lymph. There was a decided hour-glass shape to the stomach, owing to firm adhesions of the cicatricially contracted lesser curvature to the left lobe of the liver in consequence of an old ulcer of the stomach. At the pylorus there was a transverse laceration about two thirds of an inch long through which the mucous membrane was prolapsed; the neighboring portion of the organ was infiltrated with bile, and there was a recent ulcer of the pylorus. The perforation had not given rise to hæmorrhage.

The account leaves it to be inferred that the perforation was due directly to the excessive vomiting that followed the anæsthesia. What anæsthetic was used is not stated. We must probably include ulcer of the stomach among the morbid conditions that render the vomiting incidental to general surgical anæsthesia dangerous. In this instance the ulcer does not seem to have been diagnosed.

## MINOR PARAGRAPHS.

### THE PASTEUR MONUMENT.

As our readers are aware, a monument is to be erected in Paris to the memory of the late M. Pasteur, and the cost is to be met by contributions from various countries. A committee has been formed in Washington to obtain contributions in this country. It consists of Dr. D. E. Salmon, of the Bureau of Animal Industry (chairman); Dr. E. A. de Schweinitz, of the Chemical Society of Washington (secretary); Surgeon-General Sternberg, of the army (treasurer); Surgeon-General Tryon, of the navy; Surgeon General Wyman, of the Marine-Hospital Service; Professor S. F. Emmons, of the Geological Society; Professor Lester F. Ward, of the Anthropological Society of Washington; Dr. William B. French, of the Medical Society of the District of Columbia; the Hon. Gardiner G. Hubbard, of the National Geographical Society; Mr. C. L. Marlatt, of the Entomological Society; and Dr. C. Wardell Stiles, of the Biological Society of Washington. Such a committee, representative of many branches of science, will certainly, it is to be assumed, collect within a short time the amount required from the United States for this most commendable undertaking.

### ANOTHER DOCTOR IN GENERAL LITERATURE.

UNDER the title of *Hopkins's Pond and Other Sketches* the Putnams have issued an attractive book, by Dr. Robert T. Morris, consisting of contributions made to periodicals at various times and now for the first time brought together. Most of the prose articles deal with matters more or less closely connected with shooting and fishing. They are very entertaining; so also are the few character sketches in the volume, and in addition the latter show a considerable insight into human nature. The volume closes with a few pieces of versification that express kindly sentiments. We hope that Dr. Morris will work further in general literature, for he undoubtedly has a decided aptitude for description and narration.

### ITEMS.

**The Buffalo Academy of Medicine.**—At the last regular meeting of the Section in Medicine, on Tuesday, the 8th inst., the order for the evening included the following papers: The Care of Delicate Children, by Dr. Ross; The Feeding of Children under Five Years of Age, by Dr. De Lancey Rochester; The Serum Diagnosis of Typhoid Fever, a Report of a Series of Fifty Cases, by Dr. Frank J. Thornbury and Dr. A. H. Appell; A Controversial Report of Widal's Serum Diagnosis of Typhoid, by Dr. Julius Ullman and Dr. Albert E. Woehner; and A Report of an Unusual Clinical Case, by Dr. G. A. Himmelsbach. At the last

regular meeting of the Section in Pathology, on Tuesday evening, the 15th inst., the following papers were to be read: Perforation of the Uterus, by Dr. Sidney Dunham; Perforating Ulcer of the Intestine, by Dr. N. G. Russell; and Comparative Anatomy of the Cæcum—an Appendix Vermiformis in a Dog, by Dr. A. T. Kerr, Jr. Dr. H. E. Hayd exhibited gynaecological specimens.

**Intectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 15, 1896:

DISEASES.	Week ending Dec. 8.		Week ending Dec. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	43	14	23	9
Scarlet fever.....	105	5	145	10
Cerebro-spinal meningitis....	4	3	0	0
Measles.....	116	1	123	6
Diphtheria.....	245	40	295	35
Tuberculosis.....	149	97	89	83

**The Academy of Medicine's Semicentennial.**—The New York Academy of Medicine will celebrate the fiftieth anniversary of its founding on Friday evening, January 29th, in Carnegie Music Hall. There will be addresses by the President of the United States, Dr. A. Jacobi, and others, and subsequently a reception in the Academy's own building.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 6 to December 12, 1896:*

KENNEDY, JAMES M., First Lieutenant and Assistant Surgeon, will proceed to Fort Custer, Montana, and report for temporary duty at that post.

SHANNON, WILLIAM C., Major and Surgeon, is granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the Department of Dakota.

STRAUB, PAUL F., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 12, 1896:*

BEYER, H. G., Surgeon. Detached from the U. S. Steamer Raleigh and ordered to the U. S. Steamer Newark.

BROWNELL, C. D., Passed Assistant Surgeon. Detached from the Puget Sound Naval Station and ordered to the U. S. Steamer Petrel.

FITTS, H. B., Passed Assistant Surgeon. Detached from the U. S. Steamer Essex, ordered home, and placed on waiting orders.

MARSTELLER, E. H., Surgeon. Ordered to the U. S. Steamer Raleigh.

PARRISH, H. F., Assistant Surgeon. Resignation accepted from January 1, 1897.

### Society Meetings for the Coming Week:

MONDAY, December 21st: New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Cleveland Society of the Medical Sciences; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, December 22d: New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, December 23d: New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

THURSDAY, December 24th: New York Academy of Medicine (Section in Obstetrics and Gynecology); New York Orthopaedic Society; Brooklyn Pathological Society; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, December 25th: New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society; Cleveland Medical Society; St. Louis Academy of Medical and Surgical Sciences.

SATURDAY, December 26th: New York Medical and Surgical Society (private); St. Louis Medical Society.

## OBITUARY NOTES.

**Dr. Frederick Arnold Manning**, who died on December 3d in Denver, was a physician of exceptional attainments. He was born in Eddyville, Iowa, on May 4, 1839. He was fitted for college at the Polytechnic Institute in Brooklyn, and graduated in the arts at Yale in the class of 1881. Three years later he graduated in medicine at the College of Physicians and Surgeons. He served for eighteen months on the surgical house staff of the New York Hospital. He then entered upon practice in New York, succeeded in establishing an enviable reputation as a physician and surgeon, and was appointed to various hospitals in positions of trust. In the summer of 1894 he was attacked by pulmonary tuberculosis, and in 1895 he went to Colorado in search of health. The form of his disease was, however, active from the start, and the climatic advantages were unable to check its progress. Dr. Manning was a brave, kind-hearted, unselfish man, and will be sincerely mourned by all who knew him. He was a member of the leading medical societies of New York. He leaves a wife and child. He was buried at South Coventry, Connecticut.

## Births, Marriages, and Deaths.

## Married.

**CARSON—VAN EVRA.**—In Fultonville, N. Y., on Wednesday, December 9th, Dr. Robert L. Carson, of Rochester, and Miss Gertha M. Van Evra.

**COBLENTZ—RAMSBURG.**—In Washington, D. C., on Thursday, December 10th, Dr. Horace B. Coblentz and Miss Lillie R. Ramsburg.

**COX—DEAS.**—In Scranton, Mississippi, on Thursday, December 10th, Dr. William A. Cox and Miss May Deas.

**GAMBLE—JENNESS.**—In New York, on Thursday, December 10th, Dr. Carey Breckenridge Gamble, of Baltimore, and Miss Vera Jenness.

**GARY—BARHAM.**—In Norfolk, Virginia, on Wednesday, December 16th, Dr. Benjamin Roscoe Gary and Miss Willie Alberta Barham.

## Died.

**DAVIS.**—In Rochester, on Thursday, December 10th, Dr. E. H. Davis, aged sixty-four years.

**GILBERT.**—In New York, on Wednesday, December 9th, Dr. James B. Gilbert, in the forty-fourth year of his age.

**KIBBE.**—In Abbeville, Louisiana, on Saturday, December 12th, Payne Kibbe, son of Dr. W. G. Kibbe.

**MANNING.**—In Denver, Colorado, on Thursday, December 3d, Dr. Frederick Arnold Manning.

**SANFORD.**—In New Haven, on Saturday, December 12th, Dr. Leonard J. Sanford, in the sixty-fourth year of his age.

**STROUT.**—In Minneapolis, on Friday, November 27th, Mrs. Henrietta Strout, wife of Dr. E. S. Strout.

**TAYLOR.**—In New York, on Wednesday, December 9th, Dr. George H. Taylor, in the seventy-sixth year of his age.

**WOOLLEY.**—In Newburgh, N. Y., on Friday, December 11th, Dr. Charles N. Woolley, aged fifty-eight years.

## Letters to the Editor.

## ANTIPYRINE AND CALOMEL.

OGDEN CITY, UTAH, December 9, 1896.

To the Editor of the New York Medical Journal:

SIR: I have read with interest the discussion between Dr. Rosenau and Dr. Robinson relative to the toxic effects of antipyrine combined with calomel or when combined with nitrous ether. I have been taught by experience to administer the drugs separately. Twice in my practice I have come near losing a little patient by prescribing antipyrine and nitrous ether, though the two were in no wise combined; in fact, two hours elapsed between the administration of the two medicines. The depression was so pronounced that I invited counsel, and together we worked nearly the whole of a night to keep the little sufferer alive, and only strychnine and whisky, hypodermically used, saved the life of one. The other did not fare so badly. Of course, we resorted to many expedients besides the two mentioned.

If, as Dr. Rosenau suggests, the toxic effects are manifested chemically only when the drugs are mixed in the mortar or phial, still it is well to have a care while administering them and let as long a time elapse between the giving of them as possible. If given together, they may combine in spite of the assimilating power of the stomach, owing to some abnormal condition there.

A. S. CONDON, M. D.

## WHAT BECOMES OF LARGE DOSES OF OLIVE OIL.

VICKSBURG, Miss., November 24, 1896.

To the Editor of the New York Medical Journal:

SIR: The ultimate disposal of olive oil when given in the enormous quantities frequently heard of was until recently unknown to me, but is just what consideration of the circumstances would lead one to expect. That the free and available alkalies of the intestines are all seized upon after the fat splitter, steapsin, has separated the esters into their respective radicles is not to be doubted. Such a large amount could hardly be saponified, emulsified, or absorbed, however, excessive amounts of other classes of foods being refused by the economy. That all of it followed the conventional path is not a reasonable proposition, and a recent case enabled me to determine its fate in at least one instance. A *compère* had a case of hepatic colic in a victim of chronic malarial disease, and gave two pints of olive oil. Subsequently his attention was directed to some peculiar masses in the vessel. He brought them to me, and I found them to be of about the size of marbles, irregular shaped, translucent, of the consistence of cheese, and green in color. The history giving me the cue, I found they were glyceryl palmates colored with oxidized bilirubin. I saponified them with boiling sodium hydrate, precipitated one tube with artificially hard water, and salted out another, getting a hard soap. The gallstone was found, and proved to be deposits of cholesterol crystals around an organic nucleus, presumably of mucus or epithelium. The denser palmates were evidently outclassed in the race by the more unstable oleates and came through unchanged. A close analysis of all the faeces on an exclusive fat diet of determined composition would be most interesting.

A. T. MITCHELL, M. D.



## Proceedings of Societies.

### AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-second Annual Meeting, held in Philadelphia, on Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896.*

The President, Dr. F. X. DERCUM, of Philadelphia, in the Chair.

(Concluded from page 432.)

**Edema of the Eyelids in Graves's Disease; Thyroidectomy.**—Dr. J. ARTHUR BOOTH, of New York, read a paper on this subject and exhibited the patient who had been operated upon. He drew the following conclusions: 1. Slight degrees of edema situated in the extremities were of common occurrence in Graves's disease, but this symptom limited to the eyelids was very seldom seen. 2. In distinguishing these various forms of swelling it was necessary to be guided by the position and degree. If situated only in the face and upper limbs, or if asymmetrical, it was entirely of nervous origin, and it might be so if it affected the feet, but it was only slight and temporary. 3. These dropsies were evidently of vasomotor origin and were probably due to paralysis of the vasoconstrictor nerves, and were manifestations of peripheral neuritis. 4. Limited to the eyelids, edema might be due to paresis of the orbicularis. If this was true, however, it was strange that it was not met with in other palsies of this muscle. 5. Thyroidectomy, carefully performed and by one cognizant of the occasional complications, was not such a dangerous operation as was generally believed. 6. From operative interference in Graves's disease we might expect improvement in the rapidity of the pulse, cessation of the disturbing attacks of palpitation, and cure of many of the subjective phenomena.

Dr. STARR expressed the opinion that operations in these cases were not always safe, the percentage of death being twelve out of a hundred and eighty-seven cases. Sudden death had occurred soon after the operation. It had not been due to surgical shock, but to the absorption of thyroid juice during the operation, which overwhelmed the system by its toxic properties. The operation of thyroidectomy should not be done indiscriminately.

**The Nature of Neurasthenia and its Relation to Morbid Fears and Imperative Ideas.**—This was the title of a paper read by Dr. PHILIP COOMBS KNAPP, of Boston. This study was based on a hundred cases seen in hospital practice and fifty seen in private practice. The chief symptoms had been nervousness and weakness, the "irritable weakness" which was considered the essential symptom of neurasthenia. Next in frequency had been headache, indigestion, insomnia, and palpitation. Depression, backache, and other symptoms had been much less common. Neurasthenia had been considered to be analogous to chronic fatigue, and to be due primarily to exhaustion of the cells of the brain cortex. Mental depression was not infrequent, but it was usually secondary to the neurasthenic condition or the physiological result of the causes (grief and worry) which had produced the neurasthenia. Among the morbid fears were, first, those pertaining to the physical welfare of the patient, often based on physical symptoms and having a rational basis, although resting upon false premises and the patient being ignorant of the

significance of these symptoms. In other cases the fears were more those of hypochondria, a mental state akin in some degree to paranoia. The second class of morbid fears were the so-called "phobias," agoraphobia and the dread of insects, snakes, high places, etc. These fears, said Dr. Knapp, existed in perfectly healthy people, who, under their influence, might be thrown into considerable anxiety and distress. In other cases the morbid fears were secondary to certain insistent ideas, as in mysophobia, and, in some cases, the fear of people. These were forms of *folie du doute*. In other forms of *folie du doute* there were insistent ideas with marked speculation, introspection, doubt, and metaphysical quibbling, but without morbid fears. These fears and insistent ideas were not uncommon in mild forms in perfectly healthy persons. In the severe forms they existed as independent psychoses—hypochondriases, the phobopsychoses, and the phobic and speculative forms of *folie du doute*. These different psychoses might exist independently without any trace of neurasthenia; they were to be found in only a small percentage of neurasthenic cases, which was greater among private patients. When found in neurasthenia, these fears and insistent ideas were neither causes nor symptoms of neurasthenia, but indicative of the coexistence of another affection.

**A Form of Mental Disease Clinically Resembling Certain Stages of Paretic Dementia.**—Dr. E. C. SPITZKA, of New York, stated that he had found in a long experience sixteen cases of an affection which was most important to distinguish, as the termination was in recovery. So close had been their resemblance *pro tem*, to paretic dementia that in every instance that or the equivocal diagnosis of softening had been made. The writer himself had at first regarded them as appertaining to Voisin's atheromatous insanity or to his own group of primary mental deterioration. The speech disturbance had been peculiar, having been much like that of febrile delirium. By concentrating his attention, says Dr. Spitzka, a patient could correct his errors, and it was the longest words and those of most difficult enunciation which he pronounced as readily as most persons of average health and education. Repeated trials rapidly fatigued him, and, while no real paretic speech could thus be provoked, he was more apt to say "there is rumthing sotten in the den of state-mark" than to quote the passage correctly. When an expression failed him, he displayed considerable skill in circumscribing his meaning by the use of metaphorical or parallel expressions. A similar feature was found in that similar condition, bromism. The earliest case of which he had a record had occurred in October, 1879, and had been recorded by him as one of chronic confusional insanity, with a reservation as to probable atheromatous sequele. The patient had exhibited typical confusional delirium. His age, sixty-four years, the arcus senilis, the tortuous temporal arteries, and the characteristic pulse had been suggestive. He had been promptly committed to an asylum on Dr. Spitzka's advice. In February, 1881, he had recovered, and he had been alive and in good health three years ago. Among the ætiological factors, syphilis and alcohol could be excluded. Grippe, malaria, railway injuries, dysentery, and chronic bronchitis had played a predisposing rôle. Recovery had occurred in from four to fourteen months. The ages of his patients had ranged from forty-eight to seventy-one years. He had found that the last eleven cases recorded among men exclu-

sively, were not quite two per cent. of a group of cases which included five hundred and eighty-five of parietic dements, forty-one of atheromatous mental trouble, and twenty-eight of primary mental deterioration.

**Nerve Disturbance from Indigestion.**—Dr. HENRY S. UPSON, of Cleveland, dealt with the nervous disorders arising from intestinal indigestion, and reported three cases briefly as follows: A young man twenty-four years old had been seen at the end of the first week of typhoid fever. Besides the typical temperature curves, there were enlarged spleen, nosebleed, backache, and other symptoms; he had even been somewhat delirious during the day, and quite sleepless at night. Thymol and hydrochloric acid had failed to relieve him. A sixth of a grain of morphine with twenty grains of Dover's powder had not produced sleep, and within a week there had been coma vigil and subsultus tendinum. The bowels had been very constipated throughout. During the third week of the disease sleep had followed the clearing of the bowels by calomel very promptly; an eighth of a grain had been given every hour during the day and every two hours during the night. The second case had been that of a merchant, sixty years old. He had been seen two weeks after recovery from a severe attack of dysentery. The diarrhoea had been checked by the free use of opium. He had been in a state of what might be termed restless melancholia. He had been very nervous, cried easily, and hardly slept. There had been rumbling and moderate pain in the bowels, with occasional and somewhat offensive movements. The patient had been given strontium salicylate and calomel, and had been restricted to a milk diet. He had begun to sleep fairly well at night, and his extreme pallor and fairly marked anæmia, with his other symptoms, had improved slowly but steadily. The third patient had shown a similar train of symptoms after a mental shock. There had gradually developed a condition of depression, nervous irritability, and sleeplessness after she had heard suddenly that her husband had accidentally shot himself. She had first been seen five months after this event. In addition to the symptoms already mentioned, she had had rumbling and some tenderness of the bowels, but there had been no diarrhoea or marked constipation. Her condition had improved promptly on a milk diet and on the employment of one of the salicylates. Conclusions, said Dr. Upson, were not warranted from so few cases, but he believed from a somewhat extended experience in these cases that the type of nerve disturbance found in typhoid fever, and in connection with and after dysentery and diarrhoea, was found in intestinal indigestion without the intervention of these disorders, and it might easily be confounded with mild melancholia and neurasthenia; it presented many points of similarity to nicotine poisoning, and it must be carefully distinguished from nerve disorders arising by reflex. It was amenable to treatment, which should not consist exclusively in the administration of an antiseptic.

Dr. J. H. LLOYD exhibited a photograph of a patient with paralysis of the right external rectus and diabetes insipidus which had come on abruptly after an apoplectoid attack.

**The After-care of the Insane.**—This was the preliminary report of a committee composed of Dr. H. L. STEEDMAN, of Boston, Dr. F. X. DERCUM, of Philadelphia, and Dr. C. L. DANA, of New York, in which the establishment of convalescent hospitals for the insane was advocated.

**Newspaper Rabies.**—This was the title of a paper by Dr. IRVING C. ROSSE, of Washington, who referred to the frequency with which hydrophobia was mentioned by the public press at this season. Late papers on the subject showed that there was still a chaotic knowledge of this badly elucidated affection, concerning which surgeons and neurologists were by no means agreed. Dr. Rosse stated that when examining a great mass of literature relative to rabies while working on the *Index Catalogue* of the Surgeon-General's Office, he had come across hundreds of references to hydrophobia of a spurious character, and that these references dated from the Homeric era to that of Cælius Aurelianus. He also cited other literature which showed that in bygone times there had been skeptics as to the existence of such a pathological entity as hydrophobia. He had been an extensive traveler in parts of the world where this disease was supposed to occur, and he had never seen a true case. The secretary of the Japanese legation in Washington had stated that he had never known of a case in Japan, and that in Corea, where there were more dogs than in any other country in the world, hydrophobia was unheard of. A few Italian and French physicians, and the newspapers, appeared to be the chief contributors to the subject at the present time. The speaker thought that, in view of the uncertain state of our knowledge of the subject, the newspapers were hardly to be blamed for their reckless accounts of hydrophobia, since they only held the mirror up to Nature, reflected public sentiment, and gave us, so to speak, a radiograph of what was passing in the minds of medical men.

**The Collateral Theory of Epilepsy.**—Dr. F. W. LANGDON, of Cincinnati, in a paper on this subject, presented the following conclusions: 1. Epilepsy, the choreas, and probably most of the convulsive disorders were the dynamical expression of an inhibitory insufficiency, not indications of overproduction of nerve energy or explosions due to a molecular instability *per se*. 2. The cause of this inhibitory insufficiency was to be sought for in the end brushes of the collateral processes of various cortical neurons, the situation varying with the type of the disease, whether sensory, psychic, or motor. 3. The defect consisted most probably in a structural incompleteness (small capacity, defective insulation, imperfect contact) or a numerical deficiency, or both, in the collateral processes of the neurons referred to. 4. Defective collaterals might favor occurrences of convulsions in two ways: By impairing connection with other neurons (inhibitory), storage, etc., and by increased resistance to "overflow currents" causing temporary overcharging of motor axis-cylinders.

This conception of the anatomico-dynamic basis of convulsive phenomena Dr. Langdon called the collateral theory.

On this basis cases of epilepsy were classed under three groups, each of which presented important differences as regarded prognosis and treatment.

The primary, or developmental, type comprised the idiopathic cases in patients under twenty years of age. In these, the younger the subject and the better the heredity and environment, the better the prognosis under intelligent treatment. The ultimate result depended on the possibility of promoting further and equable development of collateral communications with inhibitory mechanisms. The "accidental" forms were due to injury, syphilis, lead, toxines, etc. The prognosis here varied according to the longer or shorter duration and the possibility of removal of the cause; it was al-



ways favorable so long as permanent structural changes in collateral and inhibitory mechanisms had not occurred. The degenerative type included the rare cases in adult life and old age (not accidental). Here palliation only was to be expected, as in degenerative changes elsewhere. In all forms the rational indications for treatment were to lessen the incoming sensory excitation by diet, occupation, and medicines, and so lessen the intensity of motor responses which were not provided with suitable overflow and inhibitory mechanisms.

### Book Notices.

*A Treatise on Surgery.* By American Authors. For Students and Practitioners of Surgery and Medicine. Edited by ROSWELL PARK, A. M., M. D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, Buffalo, N. Y., etc. Volume I. General Surgery. With 356 Engravings and 21 Full-page Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. 6 to 799. [Price, \$4.50.]

ALTHOUGH many members of the medical profession might, at first thought, regard the publication of this treatise upon surgery as an unnecessary addition to our surgical literature, which has so recently been enriched by many valuable contributions, the majority of surgeons who will take the trouble to examine it will, in our opinion, welcome it as a worthy addition, not only on account of the fact that it represents to a large extent the views of its gifted editor, but also on account of its intrinsic worth.

Occupying as it does a position midway between the elaborate and exhaustive treatises on the one hand and the surgical handbooks on the other, it will be found by the surgeon to be a most satisfactory book of reference and by the general practitioner and student of medicine a reliable and convenient text-book. In the first nine chapters, devoted to surgical pathology and the acute infectious surgical diseases, Dr. Park has given us almost classical descriptions of these conditions and processes. His views upon these subjects, which represent the most advanced modern thought, are clearly but briefly stated, carefully considered, and logically expounded.

The chapter on the surgical pathology of the blood contains much that is new and which will be found to be of the greatest clinical value. The same may be said in regard to the chapter on cysts and tumors. It is doubtful if any writer on this important subject has been able to condense so much valuable information into so small a space and at the same time present it in so readable a form.

The chapters on syphilis, anæsthesia, fractures, and dislocations are deserving of special mention, not only on account of the able manner in which the subjects are presented, but also on account of their commendable brevity.

It is to be regretted that the chapter on surgical diagnosis was not more carefully written; although it contains many useful suggestions, it is badly arranged, badly expressed, and in several instances far from accurate.

The work is abundantly illustrated with over three hundred engravings, and a number of excellent full-page colored plates.

If in the general presentation of the subjects the same standard is maintained in the second volume, the work will doubtless receive the general indorsement of the profession.

*A System of Gynecology.* By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc., and W. S. PLAYFAIR, M. D., LL. D., F. R. C. P., Professor of Obstetric Medicine in King's College, etc. New York and London: The Macmillan Company, 1896. Pp. xviii-973. [Price, \$6.]

A WORK on gynecology published at the present time must, to obtain prestige, have certain inherent virtues. It must be recent in its nomenclature and in its pathological and therapeutical statements; it must condemn obsolete measures unsparingly; it must give something new and not be a mere compilation of other text-books. The book under consideration, with very few exceptions, meets these requirements and more. It is a carefully edited, well written, progressive, recent book, and most of its articles bear the stamp of authority. To point out all the excellences and deficiencies of this system of gynecology would demand more space than can be given in the *Journal*. But it will be worth while to consider a few of the articles more particularly.

The history of the development of gynecology is well presented, full credit being given to German, French, and American investigators. It needs but to be mentioned that the section on the anatomy of the female pelvic organs is written by D. Berry Hart to give it a claim to authority. The chapter on the diagnosis of gynecological disease is by Robert Boxall, and, though it is quite full, it can not be compared to Winter's recent book on the subject, which is of about the same compass as this chapter. For instance, not a word is to be found as to the early detection of pregnancy, a condition which the gynecologist sees much more frequently in its first stages than the obstetrician.

Dr. Playfair himself discusses the relation of the nervous system to the ætiology of disease of the female pelvic organs. Though there is nothing strikingly new presented, the eminent author elaborates the subject with his usual clearness and force. His denunciation of the neglect visited upon young girls during their menstrual development and the false modesty which prevents their being made acquainted with the nature of this phenomenon and its significance is timely, even though it is an off-told tale.

Opinions may differ some years to come as to the curative action of the electric current in gynecological diseases. Yet it is something of a surprise to see electricity so dogmatically recommended as a cure for stenosis, endometritis, subinvolution, and fibrous tumors as is done by Robert Milne Murray. Of endometritis he says: "I am convinced that electrical treatment will cure any case curable by curetting" (page 319). This statement will not meet with hearty indorsement in American gynecological circles. That good results may be obtained in some selected cases of stenosis and fibroids is no longer to be doubted, but thorough dilatation with curetting is a more certain



measure in the former ailment, and operative treatment is to be preferred in cases of fibroids that require interference. The other cases, those in which electricity is beneficial, are usually those which present no marked symptoms in the form of pain or hæmorrhage and therefore demand no treatment.

One of the best chapters in the book is that on displacements of the uterus, by Alexander Russell Simpson. It considers all the operative and non-operative methods of treatment, but the author unfortunately does not express his opinion of the value of vaginal fixation in retroflexion, and he does not mention the mode of action of the pessary in such cases.

Herman has written an admirable article on the disorders following childbirth. There is nothing left to be desired in this or in the succeeding chapter, on extra-uterine gestation, by J. Bland Sutton. Need it be added that Sutton recommends immediate abdominal section, and that only, for this condition?

The articles on pelvic inflammation, pelvic hæmatocele, benign and malignant growths of the uterus, the plastic operations, the diseases of the tubes and ovaries, and the technics of ovariectomy and hysterectomy are all up to the standard of the rest of the work. Of course, in the detailed after-treatment of cases procedures vary, and we fail to see the advantage, for instance, of rectal feeding after hysterectomy and removal of the appendages (page 639). But there is no consensus of opinion as to feeding and the movement of the bowels after the major gynecological operations, and each operator achieves results in his own way.

The book concludes with a comprehensive article on the diseases of the bladder and urethra, by Henry Morris. Although he fails to acknowledge the work of Pawlik and Kelly, the subject is treated with evident knowledge and with more than usual clearness.

It is no disparagement to other systems to say that this work is one of the best, if not the best, in the English language. It is a splendid collection of monographs. The book is handsomely printed on good paper and is richly illustrated. Some of the illustrations are not up to the standard of the best, but many of them are new and are well executed.

#### *A Treatise on Obstetrics for Students and Practitioners.*

By EDWARD P. DAVIS, A. M., M. D., Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. Illustrated with Two Hundred and Seventeen Engravings and Thirty Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1896. Pp. xi-17 to 553. [Price, \$5.]

If the author had been content to designate this work a simple treatise it would call forth less criticism, but in the preface he distinctly states that the aim has been "to furnish to the student a text-book and to the practitioner a work of reference in which the art of obstetrics should be fully set forth in accordance with the most modern results of investigation and experience." Coming as it does from the pen of one who is so intimately connected with obstetric teaching, and who has contributed so many worthy articles in the past, we are forced to the conclusion that for some reason this work has been hurried to the printer without revision or careful thought. A very good example of this deficiency is seen on page 199, where the author, in concluding the subject of the treatment of normal

labor, passes over to the subject of surgical shock as follows: "Should surgical shock be present, it must be treated with strychnine a twentieth of a grain hypodermatically." That strychnine may at times be useful in surgical shock is very certain, but that the medical student should be led to suppose that such is all the treatment required seems to be poor teaching. It is true that under the head of hæmorrhage, in the latter part of the book, this subject is more fully gone into, but the fact should be stated. Surely elevation of the foot of the bed in shock due to hæmorrhage is more efficient than the use of any drug.

The illustrations are many of them new and exceedingly good, but they lack uniformity, and must mislead the student. For example, the surgeon during the examination before delivery not only covers the abdominal wall of the patient with a sheet, but is himself clothed in a surgical gown, while the cuts from photographs upon the management of the different stages of labor, and even suture of the perinæum, show the operator with his ordinary coat removed, and not even his shirt sleeves rolled up. No one can know better than the author himself how apt the medical student is to jump at conclusions, and if he sees in his preceptor's textbook photographs which depict a careless costume during an operation, he probably will feel that he is justified in following his example.

To the reader whose knowledge of obstetrics is advanced this work will undoubtedly prove interesting, as one finds many original ideas within its covers. The text is divided into seven sections as follows: 1, Pregnancy and Labor; 2, Pathology of Labor; 3, Obstetrical Operations; 4, Abortion, Extra-uterine Pregnancy, and the Puerperal State; 5, Infancy in Health and Disease; 6, Diseases of Infancy; 7, the Jurisprudence of Obstetrics. The chapters on development are concise and yet sufficiently full to give a clear idea of the subject.

The section on the pathology of pregnancy is a very good outline of the diseases usually met with, but some of the readers of this work will not perhaps agree with the author that "all women with damaged kidneys should not marry."

The subject of toxæmia is worthy of note, as being rarely dealt with in text-books.

Normal and abnormal labor are well described and the matter is thoroughly modern, but in the section on the pathology of labor, eclampsia and septic infection have not received the study that subjects so important demand.

Obstetrical operations are considered in some sixty pages, and the various procedures are described. The detail is poor, however, as, for example, in the description of the sterilization of the forceps.

Thus, while many subjects are well treated of, there is, nevertheless, evidence throughout of a lack of thoroughness and an unevenness of treatment which can be ascribed only to too hurried work on the part of the author.

*Anatomical Atlas of Obstetrical Diagnosis and Treatment.* By OSCAR SCHAEFFER, M. D. With One Hundred and Forty-five Illustrations. New York: William Wood and Company, 1896. Pp. xvi-234.

THIS volume deals with the morphology of the female pelvic organs as the anatomical basis of the physiological and pathological phenomena of pregnancy and labor.

As a very useful and instructive aid to those working

in the field of obstetric training the book will be most acceptable. If any criticism could be suggested, it would be that the illustrations are not all drawn to the same scale. They are, however, well executed and, the coloring being remarkably good, form a collection of pictures which will be welcomed by the obstetrician. The work contains one hundred and forty-five illustrations in all, and these occupy the first fifty-six pages; the remaining one hundred and seventy-eight pages are devoted to the text, which is divided into nine parts, as follows: Part I, The Normal Anatomy of the Sexual Organs during Pregnancy; Part II, Pelvic Deformities and their Influence upon Pregnancy and Labor; Part III, Displacements, Tumors, and Abnormalities of Development of the Sexual Apparatus, and their Influence upon Pregnancy and Labor; Part IV, Rupture of the Uterus and Lacerations of the Cervix; Part V, Abnormal Implantation of the Ovum, Extra-uterine Pregnancy, and Placenta Prævia; Part VI, Anatomy and Ætiology of the Premature Expulsion of the Ovum; Part VII, Abnormal Presentations, Abnormal States of the Funis and Membranes, Premature Detachment of the Normally Implanted Placenta; Part VIII, Disturbances of Labor caused by Abnormal Uterine Contractions and by General Diseases of the Mother; and Part IX, General Observations on Obstetric Therapeutics.

*A Text-book of Materia Medica, Therapeutics, and Pharmacology.* By GEORGE FRANK BUTLER, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago, etc. Philadelphia: W. B. Saunders, 1896. Pp. 11 to 858. [Price, \$4.]

The classification adopted by the author of this book follows the lines usually laid down in text-books on materia medica. His work begins with a list of the pharmaceutical preparations, and includes many of the formulæ of the *National Formulary*. These are classified according as they are "solutions," "liquid mixtures," "extractive preparations," "solid mixtures for internal use," etc. The precise value of this arrangement is not easy to perceive, unless it is that the student shall be encumbered with a mass of formulæ which he is not otherwise expected to learn. The author groups the remainder of his material into "disease medicines"—which is very bad English and difficult to understand—"antiseptics" and "symptom medicines." The work ends with some good advice as to prescription-writing and with the usual clinical index.

The text is, in the main, good. It does not go far from adopted teachings in the majority of instances. But there are some statements which may rightly be questioned. The author's dictum that ethyl bromide greatly irritates the air-passages (page 407) will not bear very close investigation, and it will not be generally admitted that children may take large doses of conium, belladonna, arsenic, and mercury with impunity (page 32). These are but two examples selected from a work which possesses not infrequent errors and, at times, considerable vagueness of expression. There are a few important omissions and a few unimportant ones. The author should have said something, for instance, of the occasional disagreeable phenomena that are sequels to the subcutaneous use of cocaine. He speaks of "systemic effects" sometimes following the local application of the drug, but he does not tell how to guard against them or what they are. The methods and time

for administering quinine form a legitimate part of a text-book on materia medica, but no mention is made of them here. The effects of heat and cold are not given, and oxygen is nowhere spoken of.

The book has some virtues. There is a full discussion of serum treatment, traced historically, advocating the antitoxine treatment of diphtheria and properly questioning the curative effects of erysipelas toxine in carcinoma. Four pages are given to treatment with animal extracts, but the author contents himself with giving the impressions of many writers without stating his own opinion as to the worth of such measures.

The illustrations had better have been omitted. That of strychnine poisoning, that of gelsemium poisoning are incorrect, and the diagram (page 543) showing how digitalis relieves the symptoms of mitral disease is almost devoid of meaning. The book is very well printed on good paper and is handsomely bound.

*Skiascopy and its Practical Application to the Study of Refraction.* By EDWARD JACKSON, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Second Edition. With Twenty-seven Illustrations. Philadelphia: The Edwards & Docker Company, 1896. Pp. 7 to 108.

The fact that the first edition of this work has been exhausted within the year is an evidence that working ophthalmologists have shown a decided interest in the subject. Skiascopy should certainly be more generally adopted by the ophthalmologist as an essential aid in the examination for ametropia. Dr. Jackson's aim has been to endeavor to convince the ophthalmic surgeon of the practical value of this test as a means of shortening an examination, and the little book is not only an example of the thorough theoretical treatment of the subject, but also a very practical presentation of the whole method.

The book consists of eight chapters, and one of the most valuable of them is the first, which explains how to study the test. In the second chapter we have a consideration of the general optical principles involved, and in the third chapter there is an intelligible discussion of the conditions of accuracy for the successful employment of the test. Chapters IV and V are devoted to a consideration of the value of the method in determining regular and irregular astigmatism. The author prefers to use the plane mirror in testing, and in this we think that most ophthalmologists will agree with him. But one chapter is devoted to a discussion of the practical application of the method of examination with the concave mirror. The relative advantages of the plane and concave mirrors are fully set forth in the final chapter. The book well deserves its success.

*Alterations of Personality.* By ALFRED BINET, Director of the Laboratory of Physiological Psychology at the Sorbonne (hautes études), Paris. Translated by HELEN GREEN BALDWIN, with Notes and a Preface by J. MARK BALDWIN, Professor in Princeton University. New York: D. Appleton & Co., 1896. Pp. xii-356.

Not only the scientific world but the educated classes among the laity as well are interested in the series of remarkable psychological investigations and results which started in France some fifteen years ago and have become part of the subject of thought of the present day.



Among the prominent investigators of the mysteries of the mind, Alfred Binet has for a long time been conspicuous; in part because of his originality, in part on account of his fairness of judgment and calmness of decision.

The book just translated has been widely known since its publication, five years ago, in the original French. The author's aim is to establish an interpretation of some of the peculiar manifestations of avowedly normal activity by arguing from cases of double personality which rest upon strong evidence for their classification. He next studies some of the phenomena shown by hysterical persons as occupying a middle ground between normal man and those who give evidence of changing personality. While his conclusions will not perhaps be universally accepted, the book is full of interest to every one who occupies himself with the higher thought of the day.

The work of the translator is admirably done, but is slightly embarrassed, perhaps, by the difficulty of translating words for which we have no exact equivalent in English. Professor Baldwin's notes of reference are helpful to the reader. The publishers' work is handsomely done.

*The Medical and Surgical Uses of Electricity.* By A. D. ROCKWELL, A. M., M. D., Fellow of the New York Academy of Medicine, etc. Illustrated with Two Hundred Engravings. New Edition. New York: William Wood & Co., 1896. Pp. xvi-612.

THIS is practically the ninth edition of Beard and Rockwell's treatise on the same subject. The book, as might be expected, is much changed from the earlier editions, being in accord with the advance in our knowledge of the applications of electricity. The chapters on electro-physics are very good, and present the subject in a clear and forcible manner. The explanation of Ohm's law is lucid, and there is no excuse for the reader's not understanding that very simple but now frequently misunderstood axiom which really lies at the root of all electrical knowledge. The forms of batteries more commonly in use are described, and directions given for their care. Very little attention is paid, however, to the alkaline batteries, which from their manifest advantages are best adapted to the physician's office. A very complete description of the various forms of apparatus on the market is given, and their special advantages are emphasized.

The chapters on the general therapeutic and physiological action of electricity have, as the author states, been little changed from those in the earlier editions.

The different currents of electricity and their therapeutic applications are discussed generally, and afterward the diseases amenable to electrical treatment are taken up in order and the methods of treatment detailed.

Only a single chapter is devoted to the static machine, and little mention is made of the induced currents of high frequency obtainable from it.

The chapters on electro-surgery give a lucid explanation of the rules to be observed in electrolysis and in the use of the galvanocautery.

The application of electrolysis, however, in the treatment of malignant growths, instead of the knife, seems not only absurd but wrong. It is practically the caustic treatment without its efficacy. We are glad to see that the electrolysis of urethral strictures is not favorably considered.

Space is given to the description of various diagnostic apparatus, such as the telephonic bullet probe, but none to the electric light in transillumination and in the direct inspection of visceral cavities.

The book ends with a short account of the Röntgen rays, but does not enter into detailed consideration of them.

On the whole, the work is valuable and will seem to clear up many points which may be shadowy in the mind of the general practitioner.

*The Diary of a Resurrectionist.* 1811-1812. To which are added an Account of the Resurrection Men in London and a Short History of the Passing of the Anatomy Act. By JAMES BLAKE BAILEY, B. A., Librarian of the Royal College of Surgeons of England. London: Swan, Sonnenschein, & Co., Lim., 1896. Pp. xii-13 to 184.

WE of the present day may felicitate ourselves upon the ease with which we acquire subjects for dissection and upon the promise of quiet sepulture—if we desire such disposition of our mortal remains when we have completed our cycles of usefulness. The student of the history of the medical profession knows well the troublous times of anatomists during the last century and the first third of the present one. He knows, too, of the horrors of the days of Burke and Hare and of the fear of the inhabitants of Great Britain of speedy disinterment and almost as speedy dissection.

In the present volume Mr. Bailey prints for the first time the diary of one of the resurrectionists, probably Joshua Naples, and precedes the diary proper with a lucid and learned discussion of the laws relating to anatomical material. While he gives many examples of the methods and work of the resurrection men, he traces the evolution of the Warburton act of 1832, which with slight modifications is the dissection law of England now and the basis of most of our laws relating to the subject. Mr. Bailey has evidently studied his material well. He has written a most instructive little book, which is an unquestionable addition to the history of the period. The value of the book is enhanced by an illustration of the dissecting room by Rowlandson, an old print, and by several interesting photographs and drawings. The book is handsomely made.

#### BOOKS, ETC., RECEIVED.

A Text-book of Bacteriology, including the *Ætiology* and Prevention of Infective Diseases, and a Short Account of Yeasts and Molds, Hematozoa, and Psorosperms. By Edgar M. Crookshank, M. B., Professor of Comparative Pathology and Bacteriology, and Fellow of King's College, London. Fourth Edition, reconstructed, revised, and greatly enlarged. London: H. K. Lewis. Philadelphia: W. B. Saunders, 1896. Pp. xxx-715. [Price, \$6.50.]

*Illustrated Skin Diseases.* An Atlas and Text-book, with Special Reference to Modern Diagnosis and the most Approved Methods of Treatment. By William S. Gottheil, M. D., Professor of Skin and Venereal Diseases at the New York School of Clinical Medicine, etc. New York: E. B. Treat, 1896. Pp. 13 to 84. [In three portfolios; price, each, \$1.]

*Medicine and Kindred Arts in the Plays of Shakespeare.* By Dr. John Moyses, Large Fellow of the Faculty of Physicians and Surgeons, Glasgow. Glasgow: James MacLehose & Sons, 1896. Pp. xiv-123.



The Physician's Visiting List for 1897. Philadelphia: P. Blakiston, Son, & Co., 1896.

Hopkins's Pond and other Sketches. By Robert T. Morris. New York: G. P. Putnam's Sons, 1896. Pp. vii-227.

Traité de médecine et de thérapeutique. Publié sous la direction de MM. P. Brouardel, membre de l'Institut, etc.; A. Gilbert, professeur agrégé à la Faculté de médecine de Paris, etc., et J. Girode, médecin des hôpitaux de Paris, etc. Tome premier. Maladies microbiennes. Par MM. Girode, Auché, Surmont, Galliard, R. Wurtz, Grancher, Netter, Thoinot, A. Legroux, Hudelo, Boulloche, F. Vidal, Courmont, L. Landouzy, Gilbert et Brouardel. Paris: J. B. Baillière et Fils, 1896. Pp. vii-818.

The Doctorate Address delivered at the Commencement of the Illinois Medical College. By Seth Scott Bishop, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association*.]

A Clinical Study of Twenty-one Thousand Cases of Diseases of the Ear, Nose, and Throat. By Seth Scott Bishop, M. D. [Reprinted from the *Journal of the American Medical Association*.]

Adenoid Vegetations in the Vault of the Pharynx. By Seth Scott Bishop, M. D. [Reprinted from the *New Albany Medical Herald*.]

Acute Suppurative Inflammation of the Middle Ear; Acute Suppurative Mastoiditis; Abscess of the Neck; Operation. By Seth Scott Bishop, M. D. [Reprinted from the *Laryngoscope*.]

Three Cases of Plastic Nasal Surgery for Saddle-shaped Nose, removal of the Entire Nose, and Arched Roman Nose. By W. W. Keen, M. D., of Philadelphia. [Reprinted from the *Therapeutic Gazette*.]

A Successful Case of Removal of a Large Brain Tumor from the Left Frontal Region—Opening and Packing of the Lateral Ventricle with Iodoform Gauze. By H. M. Thomas, M. D., of Baltimore, and W. W. Keen, M. D. [Reprinted from the *American Journal of the Medical Sciences*.]

The Microscopical Proof of a Curative Process in Tuberculosis; or the Reaction to Tuberculin evidenced by Blood Changes hitherto Unrecognized. By Charles Denison, M. D., of Denver. [Reprinted from the *Proceedings of the Colorado State Medical Society*.]

Some of the Effects of Chronic Nasal Obstruction. By Charles N. Cox, M. D., of Brooklyn. [Reprinted from the *Brooklyn Medical Journal*.]

Description of a Few of the Rarer Complications occurring during and following Cataract Extraction. By Charles A. Oliver, M. D. [Reprinted from the *Archives of Ophthalmology*.]

## Miscellany.

**The Disinfecting Action of Sodium Hypochlorite.**—In the *Lancet* for November 28th Dr. E. Klein gives a detailed account of a series of experiments undertaken by him in which sodium hypochlorite in solutions in distilled water—one in ten, one in a hundred, and one in two hundred—was tested on the following microbes: The *Proteus vulgaris*, the *Bacillus coli communis*, the *Bacillus typhosus*, the *Bacillus diphtheriæ*, the bacillus of swine fever, the vibrio of cholera asiatica, the *Staphy-*

*lococcus aureus* of ordinary pus, the spores of *Bacillus anthracis*, and the spores of the anaerobic *Bacillus enteritidis*. The experiments made with these nine species of microbes were as follows:

**Series 1.**—Sodium hypochlorite was used in a solution of one in ten, that is, containing one per cent. of available chlorine. After exposure for twenty minutes the result was that in no subculture was there any growth; the microbes had been devitalized by this solution in twenty minutes. After exposure for ten minutes the result was that there was no growth in the first seven species or in the spores of the anaerobic *Bacillus enteritidis*, but in the spores of the *Bacillus anthracis* there was a limited growth in broth culture, and in agar culture there was a single colony. On subculture this yielded normal growth which produced typical anthrax in a guinea-pig. While the solution one in ten completely devitalized the spores of anthrax in twenty minutes, it did not quite do this with all the spores. The seven microbes referred to were also killed by an exposure for five minutes, no subculture yielding growth. The spores of the *Bacillus anthracis* and of the anaerobic *Bacillus enteritidis* were seemingly unaffected, since copious normal growth was obtained in subculture.

**Series 2.**—Sodium hypochlorite was used as a watery solution, one in a hundred—that is, 0.1 per cent. of available chlorine. The following bacilli were devitalized after exposure for twenty minutes, and there was no growth in the subculture: The proteus, the *Bacillus coli*, the *Bacillus typhosus*, the *Bacillus diphtheriæ*, the bacillus of swine fever, the vibrio of cholera, and the staphylococcus. The spores of anthrax and of enteritis yielded normal and abundant growth. After exposure for ten minutes the same result was obtained as before; after exposure for five minutes the same result was also obtained. It follows, therefore, from this series, that sodium hypochlorite in a solution of one in a hundred disinfects the non-sporing microbes mentioned above in five minutes, but does not do this with the spores of anthrax and those of the *Bacillus enteritidis* in twenty minutes. The time of exposure for the spores of these two microbes was then prolonged to thirty minutes, to an hour, to an hour and a half, and to two hours. The result was that the anthrax spores, which were exposed for thirty minutes to the disinfectant, one in a hundred, yielded in subculture normal and copious growth, both on agar and in broth. The same spores after an hour's exposure yielded no growth in broth and a limited number of colonies on agar. After exposure for an hour and a half and for two hours no growth took place. Spores of the *Bacillus enteritidis* which were exposed for thirty minutes yielded good growth. The same spores after an hour's exposure yielded a very limited number of colonies. After exposure for an hour and a half and for two hours no growth was yielded. From these experiments it follows that the sodium hypochlorite used in solution of one in a hundred had a complete disinfecting power on both anthrax spores and enteritis spores when acting for an hour and a half; its disinfecting power was limited when acting for an hour, but it had no effect in thirty minutes. This result of the solution of one in a hundred on spores of anthrax (complete disinfection in an hour and a half) compares most favorably, says Dr. Klein, with all disinfectants that he is acquainted with exclusive, of course, of mercuric bichloride.

**Series 3.**—Sodium hypochlorite was used as a watery solution, one in two hundred—that is, 0.05 per cent. of

available chlorine. In this series, also, the time of exposure was for twenty minutes, for ten minutes, and for five minutes. The microbes used were: *Proteus vulgaris*, *Bacillus coli*, *Bacillus typhosus*, *Bacillus diphtheriae*, bacillus of swine fever, vibrio of Asiatic cholera, and *Staphylococcus aureus*. All these succumbed to the action of the solution after a five minutes' exposure, so that no subcultures were obtained in any of the culture tubes. Of course, exposure for ten and twenty minutes respectively had a *fortiori* the same result. On the spores of *Bacillus anthracis* and those of *Bacillus enteritidis* this solution had practically no effect, as even after exposure for four hours good and copious subcultures were obtained.

It follows, then, that on non-sporing microbes the solution, one in two hundred, of sodium hypochlorite acts as a disinfectant in five minutes. Weaker solutions—that is, one in three hundred and one in three hundred and fifty—required an exposure so long that for practical purposes it must be considered as not applicable, as the *Bacillus coli*, and particularly the *Staphylococcus aureus*, which were exposed to the solution, one in three hundred, for three hours yielded in subculture good and normal growth. An indication of the positive disinfecting action of the solution of sodium hypochlorite on the microbes in these experiments is noticeable already by simple inspection of the microbic emulsion. It is this: The emulsion becomes changed from the original turbid into a clear solution; this clarifying action is in proportion, in point of time, to the strength of the sodium hypochlorite solution. Using it in the strength of one in ten, its clarifying action is already noticed in from two to three minutes on the emulsion of non-sporing microbes; an emulsion of spores of anthrax is transparent already in ten minutes.

**Series 4.**—In this series sewage as passed out of St. Bartholomew's Hospital was mixed with sodium hypochlorite. A measured quantity of the sewage (ninety-nine cubic centimetres) was put in a glass-stoppered sterile bottle and to it was added a cubic centimetre of the disinfectant. Consequently there was here a solution of sodium hypochlorite of one in a hundred. The untreated sewage was tested for the number of living microbes contained in it, which was found to be a little under three millions to a cubic centimetre. After shaking up the ninety-nine cubic centimetres of sewage with a cubic centimetre of sodium hypochlorite, subcultures with three platinum loops to a tube were made in broth and on agar, and for anaerobes in deep grape-sugar gelatin. The first two were kept at a temperature of 98.3° F. for four days and the sugar gelatin culture at 68.5° for six days. After thirty minutes all the culture tubes remained free of growth. After twenty minutes there was no growth in the aerobic cultures, but there was one colony in the anaerobic culture; this proved to be a colony of *Bacillus butyricus*. After ten minutes there was copious growth on the agar surface, which proved to be a pure culture of the sporing *Bacillus mesentericus*, but no growth in the broth culture. It follows from this that all non-sporing microbes of the sewage were killed in ten minutes by the addition of a cubic centimetre of sodium hypochlorite to ninety-nine cubic centimetres of sewage. Spores, however, both of the aerobic bacteria (*Bacillus mesentericus*) and of the anaerobic (*Bacillus butyricus*) were not disinfected in ten minutes, but appeared to have been destroyed in thirty minutes. This last result does not quite coincide with the results obtained with the spores directly experimented with in

the former series (Series 2), in which the one-in-a-hundred disinfectant did not harm the spores of anthrax and of enteritis. The spores of *Bacillus mesentericus* having a greater resisting power to inimical influences (heat and chemical disinfectants) than those of *Bacillus anthracis*, and the latter withstanding the action of the sodium hypochlorite solution, one in a hundred, for thirty minutes, the result of the apparently successful disinfection of the spores of the *Bacillus mesentericus* in twenty minutes seems at first sight unintelligible. It is, however, explained if we remember that in the experiments with the spores of anthrax (Series 2) three loops of the emulsion would contain an enormous number of spores, while three loops of the sewage may fail to contain a spore of the *Bacillus mesentericus*, this microbe or its spores being far less numerous in the sewage than in the emulsion crowded with the spores of *Bacillus anthracis*.

The addition of one part of sodium hypochlorite to a hundred parts of the fluid is sufficient to devitalize non-sporing microbes in sewage or any similar fluid in ten minutes.

**The Medical Department in Time of War.**—The *Boston Medical and Surgical Journal* for December 10th publishes an address by Dr. Louis A. La Garde, of which the following is the substance: Medical officers, says the author, are assigned by the chief surgeon, under the orders of the general in command, to the various duties involved in the administrative and executive branches of the medical department. The members of the hospital corps are likewise organized into two branches, one for duty in the field hospitals proper as cooks, nurses, clerks, apothecaries, etc., and the other as drivers of ambulances, as porters for collecting and removing the sick and wounded, and for rendering first aid to them.

With regard to the present allowance of sanitary soldiers and medical officers, Dr. La Garde says that the number of medical officers with troops in the field is on an average three to each regiment, although this number is by no means constant, and it is possible at times to get along with much fewer, while certain emergencies are likely to arise when two or three times that number might be required. In addition to this force of the hospital corps and medical officers, the regulations provide for an auxiliary force among the privates of the fighting line. These are known as litter-bearers. Formerly they numbered four to each company, and they were taught the duties of first aid to the injured by the medical officers. Recent orders from the War Department, however, provide that not only four, but all the men of a company, shall be taught the duties of first aid to the injured, so that in time of battle any one of the men may be designated by the commander to remove the wounded or care for them in other ways.

The medical officers are no longer expected to instruct these privates; they are taught the duties of first aid, and are drilled in the handling of the wounded on and off the stretchers, in and out of the ambulances, etc., by the company officers. The ambulances are distributed to the army at the rate of three to each regiment of infantry of five hundred men or more, two to each cavalry regiment, and one to each battery of artillery. Two ambulances are allowed the headquarters of each army corps, and to each train of ambulances belonging to a division two army wagons are allowed. This, says Dr. La Garde, is the method of organiza-



tion of the medical department in the army on a war footing.

Concerning the question of the necessity of an increase in the number of helpers to the wounded, which seems apparent with the use of the new military rifle, with the old arm experience showed that the numbers already mentioned were sufficient to care for the wounded in the vast majority of instances, but now that the large-calibre rifle has been discarded for the weapon of small bore, whose range and penetration exceed anything yet tried in the way of hand weapons, it is maintained by many writers that there will be a larger percentage of wounded, and that the additional work to be thus imposed upon the relief corps will be far beyond the capacity of the present allotment.

It is said, continues the author, that other causes will operate to impose additional work upon the relief corps by which troops are spread over more ground, and the increase in the percentage of wounded, which it is said will come from modern field artillery.

If the casualties of battle are to be greater hereafter, there is no doubt, Dr. La Garde thinks, that the numbers of the relief corps should be increased. There are no means of estimating the deadliness of the new military rifle—this can only be determined by future wars—but some deductions can be drawn from the statistics of the past, by which conclusions of reasonable value may be arrived at.

A study of these statistics gave formerly a pretty accurate idea of the percentage of the wounded which might be expected in a given battle fought with the old arm. In estimating the casualties of battle heretofore, the percentages of wounds from rifles, carbines, and revolvers were especially considered, because they formed the vast majority of all the wounds noted. The wounds from the artillery arm, bayonets, and sabres formed but a fraction of the whole. It is known from past experience, therefore, says Dr. La Garde, that the great majority of the injured noted in hospitals suffered from bullet wounds. The statistics of various wars shows this very prominently. The statistics of the Crimean War give the percentage of the gunshot wounds by rifle bullets as sixty. In the War of the Rebellion the nature of the missiles was ascertained in 141,961 cases, and the surgeon-general's report says 90.1 per cent. were inflicted by rifle bullets. In the Franco-Prussian War Chenu's statistics gave the percentage of those receiving bullet wounds among the French at Gravelotte at 80.19. The same author on the part of the German army for the whole of the war shows that ninety-one per cent. of the wounds were inflicted with rifle bullets. It is thus seen that heretofore the casualties of battle have been especially identified with bullets from hand weapons, and in reckoning upon the casualties and havoc of future wars, Dr. La Garde believes that the majority of the writers have special reference to the perfected military rifle-propelling, steel-armored bullets. Those who argue that the present allotment of two per cent. for a relief corps is not sufficient, cite especially the dangers of the new gun in so far as they lie in greater penetration, greater dangerous space, and the employment of smokeless powders, which gives a clear field.

It may be stated here, says Dr. La Garde, that increased penetration, superior velocity, and extended range have ever been the aim of the ballisticians, and that the perfected military rifle of to-day is the gradual outcome of his genius.

In answer to the argument that smokeless powder

will operate to increase the percentage of wounded it may be stated that rifles of small calibre are proverbially inaccurate in the mid and remote ranges, and that for this reason a clear field does not offer any marked advantage. The inaccuracy in fire is said to be due to the hygroscopic property of the nitro compounds which compose the new explosives as well as to their poor keeping qualities, both of which cause varying velocities.

It has been proposed to counteract the use of smokeless powder by generating smoke on the field from explosives, chemical substances, etc., in order to conceal the troops from the fire of the enemy, or for any purpose calculated to give advantage in manoeuvring bodies of men. In addition to this, the showy uniform and white tentage heretofore in use are to be discarded for materials with shades bearing but little contrast to those of the field. When the resort to such expedients is considered, in connection with the inaccuracy of the new arm, says Dr. La Garde, it is doubtful if even smokeless powder will have any influence to increase the casualties of battle or to alter the present allotment of relief corps.

The character of wounds inflicted by steel-armored projectiles and the perfect technics in dressing them will have their weight in lessening the work of the sanitary corps in the wars of the future.

The old conoidal leaden bullets of large calibre invariably produced comminution and splintering in the joint ends of bone, and the injuries they were wont to cause in these anatomical parts were attended with marked shock, so that they were always serious at best.

On the other hand, he says, the destructive effects of the jacketed steel bullet in the spongy ends of bone, except at relatively short ranges, are not attended with comminution or fissuring, and the element of shock may be entirely absent or faintly marked. Instead of the enormous destruction of tissues effected by the old leaden bullet, gutting or a complete perforation of the bone without fracture will often be found, and these appearances are specially noted at ranges between three and fifteen hundred yards.

Gunshot injuries of the shafts of the long bones by the old leaden bullet of large calibre were characterized by extensive comminution, isolated fragments free from periosteal attachments, and numerous fissures. On the contrary, the jacketed bullet causes less comminution, the smaller fragments are generally bound to the main fragments by periosteal attachments, the fissures are usually subperiosteal, and the bony lesions have more of the nature of perforations, such as are commonly seen in the joint ends. Complete perforations without fracture are not infrequently seen in the results of the experiments on cadavers and lower animals. Dr. Arnold of the navy, while giving his recent experiences in China in the annual report of his surgeon-general for 1895, details a complete perforation of both femora in the same individual, without fracture, by a steel-armored bullet from a new Mauser. Taking all these facts into consideration Dr. La Garde believes it may be stated without much fear of contradiction that the gunshot injuries of the extremities which have formed such a large percentage of wounds will be less severe in the wars of the future, that the proportion of men in this class who will require transportation to the rear will be smaller than heretofore, and that, therefore, an increase in the number of porters from this source need not be apprehended.



Our present knowledge of treating wounds, he thinks, will operate materially to lessen the burden of the relief corps. In former wars sepsis was the rule in all wounds; the constant attention and frequent dressings entailed a vast amount of work on the medical department of the various hospitals. To-day, when aseptic and antiseptic methods are followed, it is the exception to witness suppuration in wounds; it is seldom that a wound requires to be dressed oftener than once a week; whereas it was necessary in the pre-aseptic era to change the dressings daily and often twice a day. The saving in time, material, and labor is at once apparent when the old methods are contrasted with the new.

#### The Use of Senecio in Disorders of Menstruation.—

In the November number of the *Medical Chronicle* Mr. W. E. Fothergill gives a summary of the work of Dr. William Murrell, Dr. Dalché, Dr. Heim, Dr. Bardet, and Dr. Bolognesi bearing on the therapeutic value of the senecios, and their conclusions as follows:

Murrell, among other remarks, says he found that it succeeded admirably in those cases in which the menstrual function, having been established and performed regularly for some months or even years, was delayed or suspended as the result of exposure to cold or some similar cause. In cases in which the amenorrhœa was associated with or dependent on anemia, senecio uniformly failed to do any good until the anæmic condition had been removed by iron. In cases in which the menstrual flow had never been established, senecio was frequently most useful, and in four cases of vicarious menstruation—the blood coming from the mouth or gums—nothing could have been more satisfactory. He is satisfied that senecio not only anticipates the period, but also increases the quantity. In many cases of dysmenorrhœa it promptly relieves the pain, and not infrequently the headache from which many women suffer at those times. Senecio is apparently not an ecboleic.

Dalché and Heim conclude that the drug relieves painful menstruation if the reproductive organs are healthy, but not otherwise. They remain doubtful whether senecio provokes the menstrual flow, and they offer no hypothesis as to its mode of action.

Bardet and Bolognesi conclude that senesio has the constant property of provoking menstruation, though administered in small and harmless doses. They hold that it always tends to regularize menstruation, but that it does not relieve pain at the periods, and does not increase the quantity of the discharge. They suggest that it both produces congestion of the reproductive organs and also excites contraction of the uterine muscle.

M. Bardet mentioned one of the cases on which the latter supposition is based in a discussion at the Société de thérapeutique. A woman, aged thirty-eight years, suffered from nausea and hypogastric sensations recalling to the mind those of pregnancy, on three occasions after she had taken senecio. But subjective phenomena described by a patient, says the writer, are very slight evidence on which to base a statement, as M. Bardet does, to the effect that her uterus contracted.

M. Blondel thinks that the reports on the physiological action of senecio are both vague and contradictory, and that until the action of a drug is definitely known its indications and contraindications can not be established. Amenorrhœa, he says, is not a disease but a symptom, and its causes must be discovered before they can be attacked. In half the cases seen it was, he said,

due to pregnancy, the diagnosis of which during the early months was beset with difficulties. Therefore he thought the treatment of amenorrhœa should always be indirect, both from the risk of causing abortion, and in order to preserve a true clinical spirit. The drugs which act directly in provoking menstruation, he thought, were unreliable, dangerous, and of merely temporary effect.

Now these remarks of M. Blondel, continues Mr. Fothergill, though likely to catch the sympathy of the superficial reader, are not really calculated to deter any one from giving respectful study to the work of these authors. For, to go over his objections in reversed order, granting that the so-called emmenagogues in use are unsatisfactory, there is no reason *a priori* why it should not be discovered that one or other of the active principles of the senecios is a true emmenagogue, reliable, safe, and perhaps even permanent in its action. Next, in certain cases, amenorrhœa is not a symptom of any pre-existent disease, but is due to the action on the nervous system of various external and temporary causes. Secondary bad effects, both mental and physical, follow the amenorrhœa, which in such cases is a primary disorder, and is certainly one suitable for direct treatment. Thus, Edelheit mentions four cases in which amenorrhœa inaugurated a primary and serious affection, fatal in two of them, recovery in the other two following the re-establishment of menstruation. Again, the difficulties in diagnosing early pregnancy, if great, are not insuperable to all; and there is no necessity for any one to administer a possible ecbole while still in doubt as to the diagnosis. Lastly, if no drug may be used until its action is definitely known and its indications are clearly defined, there is an end to the introduction of new therapeutic agents. All that the most exacting can demand is that the introducer of a new drug shall give a working hypothesis according to which the drug may reasonably be supposed to act.

Menstruation expresses an anabolic surplus produced by the healthy human female from puberty to the menopause, except during pregnancy and lactation, the time of its occurrence probably being determined by the activity of a special centre in the lumbar part of the cord.

Now, says Mr. Fothergill, in the light of this view of menstruation, substances like iron, which affect the quality or quantity of the blood, are only indirectly emmenagogues. Similarly, substances which, by causing renal or gastro-intestinal irritation, promote pelvic congestion and uterine hæmorrhage, are also indirect in their emmenagogue action. To be a direct emmenagogue, a substance must act upon the nervous mechanism which initiates the discharge, namely, the hypothetical centre for menstruation. Thus an emmenagogue is quite distinct from an ecboleic, which is supposed to cause contraction of the uterine muscle by acting either on the fibres themselves or on their motor nerves. It is possible, he thinks, that senecio may be found to contain an active principle which is a direct emmenagogue in the proper sense of the word, and it does not follow that this principle must be an ecboleic.

Several kinds of amenorrhœa, continues the author, may be classified according to treatment, and the indications defined for the use of the direct emmenagogue which senecio may prove to be. From the reports of these authors, it does not seem likely that the drug will be of much use in dysmenorrhœa.

The following is his classification according to treatment:

*No Treatment.*—Physiological amenorrhœa—i. e., before puberty, during pregnancy, during lactation, and after menopause. Amenorrhœa due to congenital or acquired deficiency or to absence of essential reproductive organs.

*Surgical and other Local Treatment.*—Amenorrhœa due to local defects, such as atresia vaginae, atresia cervicis uteri, congenital or acquired neoplasms, etc.

*Indirect Treatment.*—Amenorrhœa due to general disease which so disturbs metabolism that there is no anabolic surplus—e. g., anæmia and phthisis—where menstruation would be an unnecessary drain on the patient.

*Direct Treatment by Emmenagogues.*—Amenorrhœa due to want of activity of the nervous mechanism initiating menstruation, caused by nervous disease, shock (mental or physical), fear or hope of pregnancy, etc., including those cases in which the function has never been established, but where there is no local defect or general disease sufficient to account for its absence.

#### The Action of Influenza on the Female Organism.—

The *Indépendance médicale* for November 25th publishes an abstract of an article by Dr. Gabriel d'Engel (*Wiener medizinische Presse*, October 16, 1896), in which the author states that during the epidemic of 1889 to 1890 influenza occurred as frequently in women as in men; it was also noticed that when the disease attacked a family the women were seized first, but that it was more benign in them than in the men.

In women influenza does not exercise so injurious an action on the respiratory and digestive organs as in men; on the other hand, it produces in them much more frequently disturbances in the physiological functions of the genital organs.

Following the simple disturbances of menstruation there may be observed a series of anomalies of this kind which may resemble an obstruction of the blood or hyperæmia of the genital parts, but which can not be attributed to any other cause but influenza.

The most important pathological alterations are found in the mucous membranes. The genital organs seem to have a special predisposition for the localization of the disease.

In forty per cent. of the cases observed by the author the initial phase of influenza coincided with the menstrual period. The flow of blood was often more abundant and lasted longer than ordinarily. Several of the patients noticed also the presence of clots.

If the disease occurred a week before the regular menstrual period, it provoked menstruation. The author observed that it caused a regular menstruation during several months in anæmic or chlorotic girls, and that in six cases it brought on the first menstruation.

Acute and chronic uterine catarrhs are aggravated by the action of influenza, the secretion becoming more abundant and more like pus.

#### Morphine as an Antidote to Cyanide of Potassium.—

The *Presse médicale* for November 25th states that, in order to kill a dog which had been experimented on several times, Dr. Heim (*Münchener medizinische Wochenschrift*, 1896, No. 37) injected under the skin of the back six grains of morphine, and after a short period of excitation the dog slept. At the end of an hour, however, the dog was still alive and the author, in order

to hasten the animal's death, administered a subcutaneous injection of ten cubic centimetres of a 3.3-per-cent. solution of cyanide of potassium. The effect of this injection, says the author, was altogether surprising; the dog awoke and became very lively. This condition persisted for some time and then the dog was seized with convulsions and died an hour and a half after the injection of the cyanide of potassium.

It is evident, says the writer, that this drug neutralized the effects of the morphine, and that the morphine retarded the toxic action of the cyanide of potassium.

In order to explain this fact, the author made a series of experiments on mice. After establishing the minimum fatal dose of morphine and of the potassium cyanide he proceeded with the experiments, which consisted in treating the animals that had been subjected to injections of potassium cyanide with morphine, and those that had been subjected to fatal doses of morphine with potassium cyanide. With a few exceptions, the animals could always be saved. The morphine seemed to be the antidote to the cyanide of potassium and *vice versa*.

With regard to the mechanism of the neutralization of these two poisons, the author thinks that, owing to the influence of the iron in the blood, which is an alkaline medium, there are formed Prussian blue and an oxide of morphine.

#### The Pine-shaving Cure for Baldness.—

A humorous person recently wrote as follows to *The Sun*:  
"To the Editor of *The Sun*:

"SIR: In answer to your correspondent, J. M., who, in reference to E. S. E.'s pine-shaving and alcohol remedy for baldness published in *The Sun*, asks if it makes any difference what kind of pine shavings is used, I would say that the shavings of almost any of the pine family will answer; but yellow-haired people had better use yellow pine; black-haired, the bull black pine (*Pinus Jeffrego*); true blond, the golden pine, and elderly people the silver pine or the gray pine (*Pinus Banksiana*). In applying the shavings the head should be well pitched and the shavings stuck thereon in artistic festooning. Care should be taken not to strike a match on the head or poke the fire with it while thus treated."

**Adipogen.**—This is a new medicinal preparation made in Norway and patented in the United States. It consists of the salted livers of the cod put up in cans. It is far less unpalatable than cod-liver oil, and the statement is made for it that it has medicinal virtues additional to those of the oil, the tonic properties of the alkalis of the liver.

**The New York Academy of Medicine.**—At the last regular meeting, on Thursday evening, the 17th inst., the following papers were to be read: The Permanganate Treatment of Opium Poisoning, by Dr. William Ovid Moor; and The Essential Nature of Croupous Pneumonia, by Dr. Andrew H. Smith.

At the last meeting of the Section in General Surgery, on Monday evening, the 14th inst., Dr. Willy Meyer was to read a paper on Early Diagnosis and Early Nephrectomy for Tuberculosis of the Kidney. Patients were to be presented by Dr. Willy Meyer, Dr. C. N. Dowd, Dr. R. A. Sands, Dr. John Rogers, Dr. J. P. Tuttle, Dr. Robert Abbe, and Dr. A. L. Fisk.

At the last meeting of the Section in General Medicine, on Tuesday evening, the 15th inst., the following papers were to be read: Mucous Colitis a Functional



Neurosis, by Dr. Walter Mendelson; and Purpura Hæmorrhagica, by Dr. Leonard Weber. A demonstration of instruments of precision used in the observation of cardiac disease was to be given by Dr. H. Newton Heine-man.

At the last meeting of the Section in Orthopaedic Surgery, on Friday evening, the 18th inst., Dr. Leroy W. Hubbard was to read a paper entitled The Prognosis of Hip-joint Disease; patients were to be presented, and new instruments, appliances, etc., were to be exhibited.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 21st inst., Dr. Ira Van Gieson will read a paper entitled Preliminary Observations on the Cytology of the Cones of the Retina, and Dr. C. H. May will read one on The Optical Society Bill of 1895 to 1896, and its Proposed Re-introduction in the New York Legislature during the Session of 1896 to 1897. Patients will be presented by Dr. H. Knapp, Dr. T. R. Pooley, and others.

At the next meeting of the Section in Laryngology, on Wednesday evening, the 23d inst., Dr. W. C. Phillips will read two papers, one entitled Early Laryngeal Epithelioma, and the other A Point in the Etiology of Chronic Nasopharyngitis. Patients will be presented and new instruments exhibited.

**Laparotomy for Intestinal Perforation in Typhoid Fever.**—The *Gazette hebdomadaire de médecine et de chirurgie* for November 26th publishes an account of a recent meeting of the Société de chirurgie at which M. Monod stated that he had been called to see a man who showed very grave symptoms during the course of typhoid fever which pointed to intestinal perforation. As the general condition of the patient was satisfactory, M. Monod performed laparotomy. The abdomen was filled with serosity, pus, and fecal matter. There was a perforation of the small intestine near the cæcum, which was sutured. On the following day there was very little improvement and the patient died in a few hours. At the autopsy it was seen that the sutures of the intestine had remained in place, but that there had been a generalized adhesive peritonitis.

In the researches undertaken by M. Monod in regard to this subject he had found accounts of thirty-two cases with five recoveries; these cases had been very briefly reported, however, and on a closer investigation the number of recoveries had been found to be two, one reported by Roux and the other by Abbe. In each case the patient had not been operated upon until two days and a half after the onset of the symptoms.

In typhoid fever, said M. Monod, many perforations often occurred in succession, and it had been said that these perforations might be cured spontaneously. Cases had been cited in which this had occurred, but they were exceptional, and in general all cases of perforation ended in death.

He thought the surgeon should operate very soon after the onset of the symptoms when the general condition of the patient was comparatively satisfactory. Median laparotomy should be done and the perforation sutured at a proper distance from Peyer's patches. M. Monod thought that the operation was more successful when the perforation occurred during a relapse of the fever or at the termination of the disease.

M. Rouvier stated that he had operated twelve hours after the onset of the symptoms. He had made a transverse incision near the painful region and sutured the

two perforations which he had found. The patient had lived for ten days and died after two other operations had been done.

**The Best Treatment of Scabies.**—The *Province médicale* for November 21st contains an abstract of an article from the *France médicale* for October 30th, in which the author, M. Julien, states that he has treated a great number of women by painting the entire body with the balsam of Peru, which exercises a toxic action on the acarus. The application of this remedy is very simple. No soap and water should be used before its application, for the greasy substances of the body, he says, are very useful in promoting the action of the remedy. With a brush a thin layer of the balsam is laid on the body and then rubbed in gently. The volatile properties of this agent enable it to penetrate the furrows easily, thus rendering it unnecessary to tear them apart; afterward a cleansing bath is given. In order to obtain the best results, M. Julien recommends practising the paintings at night and resort to the bath on the following morning, so that the patients may receive the full benefit of the agreeable exhalation, which resembles that of benzoin; this condition, however, he says, is not indispensable. If the disease is of long duration there will be no inconvenience in prolonging the action of the remedy, as it causes no irritation and is always well borne.

M. Julien states that he has employed the balsam systematically for a period of five years, and that it has shown itself efficacious in all cases, even in those of long standing and in those in which grave relapses have occurred. He thinks that this remedy is clearly indicated in subjects suffering from impetigo, ecthyma, eczema, cardiac troubles, albuminuria, etc., during menstruation, in certain pregnant women, and in all other subjects for whom baths are interdicted. He recommends it also for nurslings.

In a word, he says, it is a simple measure which any patient may easily apply himself, its action is very certain and exact, and it has a pleasant odor which is especially appreciated by patients.

M. Julien says that he does not know of any contraindication to the use of this agent, and, he adds, the same can not be said of the ointments which contain sulphur, for their most ardent advocates have been forced to acknowledge that there are many contraindications to their employment.

### Three Cases of Subcutaneous Emphysema in a Family.

—At a recent meeting of the Société médicale des hôpitaux, a report of which is published in the *Journal des praticiens* for November 25th, M. Galliard stated that M. Valdés, of Matanzas, Cuba, had reported three cases of subcutaneous emphysema complicating measles. Two of the patients had been observed by himself, and he had found that in one patient the emphysema extended from the neck on both sides to the trunk and to the left arm; in the other patient it was limited to the neck. In both cases there was slight bronchitis. The third patient had died six days later, of pulmonary tuberculosis. The two brothers of these three patients did not present any similar symptoms. All five had had whooping-cough without any complications. Their father was asthmatic.

M. Galliard thought that there was a congenital weakness of the pulmonary vesicles and also a predisposition produced by the whooping-cough.



## Original Communications.

## A STUDY OF IRRUPTION OF THE TEETH INTO THE NASAL CHAMBERS.

A RÉSUMÉ OF REPORTED CASES  
AND A REPORT OF ADDITIONAL CASES.\*By ALEXANDER W. MACCOY, M. D.,  
PHILADELPHIA.

In the study of the irruption of teeth in the nasal chambers undertaken in this paper, the writer had not proceeded far into the subject before he found that valuable contributions to the literature were already on record by several members of this society. In the attempt to make a complete *résumé* of the subject, some difficulties have presented themselves by reason of lack of completeness in histories and absence of definite details in some of the papers; also by reason of inaccessibility of some of the journals in which the original papers appeared. Two supplementary histories have been added in this paper—one, that of Dr. Arthur W. Watson, of Philadelphia; the other, my own. In some of these cases marvelous energy in the attempt of the tissues to get rid of the foreign body was shown, and years elapsed in the accomplishment of it. In one instance this irruption was dependent upon violence directly applied, and might be considered as fully expressing the root meaning of the word "irruption." All cases in which both the irruption of the tooth and its removal have not occurred in the nasal chambers have been excluded from this paper. Very many interesting cases of irruption of teeth into the antral cavities, and formation of dentigerous cysts in the orbital cavities, etc., are found in literature, but are excluded by this limitation. I shall hope to take up the antral cases in a later paper.

I submit condensed histories of the following cases: Zuckerkandl (*E.*), vol. i, chapter xv, page 551.—It has been observed that incisor teeth sometimes develop in the floor of the nose, their crowns pushing into the anterior part of the nasal fossa. This anomaly is only possible by supposing a rotation of 180° of the dental germ. The enamel, instead of growing downward, directs itself toward the nasal fossa. Under these circumstances the tooth is inverted and the crown penetrates the nasal fossa. Salter, quoted by Sternberg, has seen a dental germ completely inverted in such a manner that the crown was in the place of the root. (*Handbuch der Zahnheilkunde*, edited by J. Scheff). He gave to this anomaly the name "inversion." These inverted teeth were always superior incisors, according to Salter, and one could see the crowns in the nostrils, through which one is obliged to extract the teeth. A

very interesting case of this kind (anomaly of median incisor) is represented in Plate LIII, Figs. 3 and 4. In this is seen a peg tooth, fourteen millimetres long, completely inverted obliquely between the suture of the two maxillary bones, the crown protruding in the left nasal fossa. This is not a supernumerary tooth, but a rudimentary median incisor transposed from the right side. The right alveolar apophysis is contracted to the size of the average incisive alveolus. The lateral incisor is advanced toward the median line. The maxillary framework was remarkable for anomalous development; also, the nasal bones were absent. In the same paper Zuckerkandl quotes a canine tooth as occurring in the nasal fossa, reported in the *Correspondenzblatt für Zahnärzte*, vol. xii, Berlin, 1883.

It was the case of a man who had suffered for a long time from obstruction of the nasal fossa. At the distance of two centimetres and a half behind the orifice of the nostril a movable canine was found and was easily extracted. Zuckerkandl also relates another case coming under his own observation of a premolar in the nasal fossa, of which the following is the description: At an autopsy, examining the nasal fossa, he struck something hard in the inferior meatus; the surface of it was covered with a mass of pus; it crossed the lower border of the turbinated and approached the wall. All around it the mucous membrane was swollen and injected, and in places showed purulent infiltration; he believed it a case of rhinolith about a foreign body. After cleansing, he saw the crown of a tooth which had irrupted obliquely across the maxillary wall. This is the description: Left nasal fossa, mucous membrane relatively normal except for tumefaction in the neighborhood of the tooth; the mucous membrane was thinned by the pressure of the mass. The tooth was found in the inferior meatus two centimetres behind the pyriform opening. It was twenty-five millimetres long, eleven millimetres of it situated in the nasal fossa. The crown was seven millimetres long. There was a space of about three millimetres between the base of the tooth and the nasal floor. The mucous membrane of the lateral wall of the inferior meatus presents a depression for the tooth, the border of it pressing against the root of the tooth. The neighboring bone to the tooth is carious on account of the molar roots. He reports the teeth of the superior maxilla to be irregular in development, there being only two incisors, a canine, and the first premolar. The others are missing. In their place the alveolar process is atrophied, and forms a large, thick lump. The left superior maxilla shows great irregularity in the position of the teeth; the left canine is not irrupted; of the premolars, one is missing. The crown of the first premolar is found in the nasal fossa with a part of the root, about twelve millimetres in length, projecting into the facial wall of the maxillary. The abnormal tooth occupies such a position that it is turned 90° toward the median line.

Roy (*Gopard Chunder*).—Roy, of the Sooree Charitable Hospital, reports a case of a Hindu boy, aged fourteen years, who presented himself for treatment for what he considered a tumor growing in his nose. For four months he had had a fetid catarrh with occasional epistaxis. For the previous two months the growth had been observed occupying the

\* Read before the American Laryngological Association at its eighteenth annual congress.

left nasal cavity, where it seemed to be attached to its wall at its upper part, its free end looking downward in the shape of a truncated cone. The tumor was seized with dressing forceps and extracted. It proved to be a canine tooth. The free extremity was covered with enamel, which stopped short at its junction with the root. The root was deeply imbedded in the side and upper part of the antrum. The boy had got his set of permanent teeth with the canines and incisors on both sides. There was no deformity of the jaw, and no swelling or cystic formation. It was clearly a case of extrafollicular development and irruption of a tooth in the wrong place, the peculiarity being that while in reported cases of a like nature the crown of the tooth shows itself at the floor of the nasal cavity from below upward, in the present instance the dental follicle was transposed, and the irruption was from above downward. The tooth is in the English Royal College of Surgeons Museum.

*Hall, De Haviland.*—Hall reports a case of a girl, aged fifteen years, in whom there existed in the right nostril a misplaced tooth, which proved to be the right permanent canine. There were marked signs of hereditary syphilis, and a fetid discharge issued from the nostrils; the nasal septum was also perforated. The tooth was extracted from its abnormal position three months after it was first seen.

*Schaeffer, Max, of Bremen.*—A case is reported by Schaeffer of a man, aged thirty-six years, who for a long time had suffered from obstruction of his left nostril. Since the age of fourteen he could feel a hard body in the left nostril with his finger. All his teeth were present in their normal position. The foreign body was extracted with a snare and forceps and found to be an incisor, measuring in length a centimetre and a half; in its greatest breadth, half a centimetre. It had for its crown enamel. On its small root it had a little cap of cartilage.

*Ingals, E. F., Chicago.*—In examining a patient who had for some time suffered from nasal catarrh, Ingals found on the floor of the left naris, four centimetres back from the nostril, a hard substance, feeling, when touched with the probe, like bone. On seizing it with forceps, the patient suffered severe pain like that caused by striking a decayed tooth. The pain was so intense that it was necessary to anesthetize the patient before a thorough examination could be made. After the patient was etherized, the body was engaged in a snare and drawn out, when it was found to be a supernumerary tooth, resembling closely a canine, and two centimetres in length. About five millimetres of the tip of the root had been exposed in the nasal cavity, and below this the tooth was covered with soft tissue which was adherent to it down to the crown. The dentine of the crown was perfect, excepting a small perforation at its apex, but within the tooth was decayed. The tooth must have been projecting within the nasal cavity for some time, for the portion of the apex of the root which was uncovered had lost by erosion about a millimetre in thickness from its entire circumference. He says: "It is comparatively rare for teeth to grow in the roof of the mouth or nasal cavities, yet several such cases have been met with. In nearly all instances the 'wild tooth,' as it is called by the laity, is found to be a supernumerary tooth or a misplaced canine." Professor E. S. Talbot examined the tooth and the patient's mouth, and stated that from the appearance of the tartar and green stain upon the

apex of the crown it must have occupied a diagonal position in the hard palate, the crown being in the roof of the mouth pointing toward the central incisors and the apex of the root in the naris pointing posteriorly. A ring of tartar encircled the crown from about three millimetres below the upper surface to nine millimetres above the lower surface, and that part of the crown below the ring was covered with a fungous growth, which proved that that part only was exposed in the mouth. The tooth had decayed because of the imperfectly formed apex of the crown until the pulp had become exposed, and death had resulted, causing alveolar abscess, the sac of which came away with the tooth. He concludes: "While it is not uncommon to find supernumerary teeth in the roof and anterior part of the mouth, it is very rare to find the apex penetrating the nares."

*Marshall, J. S., of Chicago,* reports a case of a superior wisdom tooth discharged from the nasal passages. A woman, aged sixty-two years, had suffered from facial neuralgia on the right side accompanied by severe otalgia for ten years. In October, 1884, she suffered intensely from what she supposed to be a "severe cold in the head." The right nostril became slightly swollen and completely obstructed. Breathing was almost impossible when the lips were closed. After an unusually great effort in coughing and blowing her nose, a few days after the onset of the cold, she suddenly felt something fall upon her tongue which proved, upon examination, to be a large, right superior wisdom tooth, covered with fetid pus. There was immediate relief of facial pain. Thirty years previous she had all her upper teeth removed. About four years after the removal of her teeth a tumefaction appeared upon the right superior maxilla, near the tuberosity. She consulted a dentist, but he could offer no explanation of the swelling, which disappeared in a few days. In May, 1884, she suffered from an abscess of the right ear. For several years previous to the discharge of the tooth she had had a slight fetid discharge from the nose. Dr. Marshall offers the following explanation of the symptoms: That all the pain and discomfort in the right facial region were due to this erratic tooth. The pain and swelling twenty-five years previous to the discharge of the tooth were due to the irruption of this tooth in an inverted position, which, taking a direction upward and forward, finally pierced the floor of the antrum of Eilghmore. The abscess in the ear must have been the result of an abscess at the roots of this tooth, which discharged its contents into the meatus and at the same time freed the tooth from its crypt and left it loose in the antrum. The tooth finally worked its way to the anterior portion of the antrum, and, by contact with the nasal wall, produced ulceration of this and of the inferior turbinated bone, and thus found its way into the nasal passages. The catarrhal discharge was due to the presence of the tooth in the antrum. Dr. Marshall regards the case as interesting in that it explains an obstinate case of trifacial neuralgia and indicates the probable cause of a severe aural abscess.

*Griffin, E. Harrison, of New York.*—Dr. Griffin reports a case observed at the Bellevue Throat Clinic. A male, aged thirty-two years, complained of sore throat of two days' duration. An examination of his throat showed a cleft of both the hard and soft palates. In examining the upper gum Dr. Griffin noticed the root of the second incisor tooth in the tissue, and an examination of the nose showed the tooth in a perfect state of



development projecting from the floor of the nostril up into the nasal cavity. He said the tooth had been there for years and gave him no trouble. He never suffered any pain when it was growing, and did not know it was there until one day when, inserting his finger into his nose, he noticed something hard, and looking into a mirror found it to be the tooth. As it gave him no trouble he did not go to a doctor. He did not think the tooth had grown any of late years. The patient was opposed to any operation for the removal of the tooth.

*Wright, Jonathan*, of Brooklyn.—Dr. Wright mentions six cases, all of which are reported in this paper. In all the cases reported the teeth were anterior ones, canines or incisors. He adds: "The reasons are obvious, since the posterior ones, if inverted, as in Griffin's case, would grow into the antrum." He says the first of his cases is interesting as illustrating the migration of an object through bony structure, while the second case was evidently originally one of extra-alveolar development.

**CASE I.**—A woman, aged thirty-five years. Four years previously she had had all her remaining teeth, nine in number, extracted from the upper jaw. The dentist told her he thought he had left a piece of a lateral canine or incisor on the left side. For some time before Dr. Wright saw her she had suffered from nasal obstruction on the left side. An intranasal examination showed marked hypertrophy of the nasal mucous membrane on the left side. A probe detected a rough, hard surface about half an inch from the left anterior meatus, on the floor of the nose and close to the septum. Small pieces of calcareous matter or bone could be crumbled off with the probe. Two weeks later the patient brought to the dispensary a small sequestrum which she had washed out herself. By means of a probe and forceps, he then extracted the single root of a tooth, about three quarters of an inch long, from the left nostril.

**CASE II.**—A girl, aged eight years, had suffered from nasal obstruction since she was a year old. There had been considerable offensive discharge. The bridge of the nose was sunken, the nostrils were flattened and contracted. The superior alveolar process on the left side corresponding to the situation of the canine and incisor teeth was absent, leaving a slight cleft. There was no history of accident. The left nostril was obstructed by a foreign body which grated under the probe. Considerable force was required to extract it. It was found to be the crown of an incisor tooth. It was notched, as in young children, and larger than in a child a year old. There was considerable calcareous matter around it and in the nostril, but no root was found.

*Thompson, J. A.*, Cincinnati.—At a meeting of the Cincinnati Medical Society, Dr. Thompson presented a specimen of a "tooth and portion of socket taken from the middle meatus of the nose."

A girl, aged eighteen years, came to the Nose and Throat Clinic in 1890. She had been in good health until vaccinated at the age of five years. Vaccination made her very ill; an eruption appeared on all parts of her body; her eyes became affected and she was completely blind for a time. At the age of eleven she began to complain that her right nostril was obstructed. An eruption again appeared, and the glands in her neck became swollen. She was under treatment for about two years at that time, without much improvement.

Mercurials must have been freely given her, for she was badly salivated. Since the right nostril was occluded—seven years ago—she has had neuralgia on the affected side. The breath has been extremely offensive for three years. Four years ago, at a clinic in Pittsburgh, dead bone was discovered in the nostril. An attempt to remove it at that time failed. Examination revealed that both corneæ were clouded by linear opacities and maculae. In both eyes the iris was fixed by posterior synechiae. The uvula and part of the soft palate had been destroyed. The tonsils and pillars of the fauces showed numerous cicatrices of old ulcers. In the nose, the septum was much deflected to the left. In the right nostril a white substance was seen in the middle meatus. It looked like a tooth lying horizontally in the nostril with the crown forward. Its attachment was concealed by exuberant granulations, such as always spring up around dead bone in the nose. It could be easily rotated up and down by grasping it with dressing forceps, but could not be dislodged even with strong polypus forceps. With a pair of strong sequestrum forceps he dislodged it and brought it forward to the nostril. It was seen to be the right lateral incisor tooth, with its root in a socket, and surrounded by a mass of necrosed bone. The mass was so large it could not be extracted through the nostril. He pulled the tooth from its socket, then broke the bone in small pieces with the forceps, and removed the whole thing. In the discussion following the report of this case, Dr. M. H. Fletcher expressed the opinion that the case was probably one of displacement of the intermaxillary (or incisive) bone during development. This seemed very plausible, since persistence, either partial or complete, of the premaxillary suture is not rare, even in our own race, and is frequently seen in some of the lower races, such as the North American Indian. Dr. Joseph Eichberg thought that if a portion of the maxilla had become necrosed from mercurial stomatitis, the tooth could have been lifted into the middle meatus of the nose by the subsequent process of granulation.

*Kayser, R.*—Dr. Kayser reports a case of a tooth removed from the left nostril of a girl, aged fifteen years, who for more than a year had had profuse discharge from the nose, and the nose was also much obstructed. Examination revealed swelling of the mucous membrane with exuberant granulations in the left nostril and the probe touched roughened bone. Behind this was a whitish body which, on being removed, proved to be a much incrustated infantile incisor tooth. It is probable that the tooth had acted as a foreign body for nearly a year.

*Knapp, H.*—Dr. Knapp reports that a healthy-looking boy, aged seven years, came to his clinic with necrotic rhinitis and acute purulent otitis on the left side, and an hypertrophied tonsil on the right side. The lower passage of his left nostril was filled with mucopus and decaying soft and hard masses of tissue. On removing all the dead material from the nostril, he remarks that among the sequestra two were conspicuous—the one, flat and hard, was removed from the lateral side of the floor of the nostril bordering the malar antrum; the other, from the anterior part, was cancellous, and inclosed a tooth, the crown of which appeared to be turned up and back. The sequestrum was fifteen millimetres long and represented a piece of the upper jaw, the rounded alveolar surfaces separated by a layer of cancellous bone three fifths of a millimetre thick. The tooth was the lateral incisor, its crown



healthy and well formed, twelve millimetres long and eight millimetres broad. Its root was decayed. Between the first incisor and the canine a probe could be passed through a rough-walled canal from the mouth into the nose, its direction being toward the nasal septum. Dr. Knapp mentions the fact that Zuckerkandl and Salter have both noticed such inversions at the upper incisors, the crowns of which appeared in the nostrils, out of which they had to be extracted. It might be supposed that the tooth was in its proper position, and was carried up into the nostril with the sequestrum from the alveolar process of the maxillary bone. He concludes: "Be this as it may, the above communication records an example of necrosis of the floor of the nose, and the removal of a loose sequestrum with the corresponding incisor tooth through the anterior naris. That an inverted tooth projecting over the floor of the nose should produce caries or necrosis of its alveolar walls seems very natural if we think how easily the nasal secretion retained by the tooth may decay and infect the bed and the crown of the tooth."

*Schötz.*—At a meeting of the Berlin Laryngological Society, Dr. Schötz showed a case of a tooth in the right nostril of a man, aged nineteen years. It was in the floor, two centimetres from the entrance to the nose. The point stuck up through swollen mucous membrane. It was removed with ease by means of an ear spoon, and proved to be an incisor tooth. The man's dentition was normal, except that a back tooth on the right side was missing, so that this was not an inverted but a supernumerary tooth.

*Harrell, R. F.,* Ruston, La.—A man, aged thirty-four years, came to Dr. Harrell for treatment for nasal catarrh. For six years he had suffered from this catarrh and from the most severe pain throughout the right side of his face. Breath very offensive. Upon examination a large white substance was discovered springing from the floor of the right nostril, about an inch from the meatus, and almost filling the nostril. It was hard and firmly fixed. He broke it from its attachment with strong forceps. It proved to be a perfect tooth, similar in shape to a canine, but somewhat smaller. The mucous membrane was adherent to the tooth in a similar manner to that in the alveolar process. The catarrhal symptoms all ceased.

*Joachim, O.,* of New Orleans.—Dr. Joachim's case was under treatment for specific ulceration of the nasal septum a year previous to the visits reported here. The removal of some sequestra and a course of specific treatment brought about a cessation of symptoms at that time, and the patient returned for observation because of a continuous profuse discharge from his right nostril. The discharge was not purulent. There was a prominent elevation from the floor of the nose. On examination with a probe from behind forward a very rough surface could be felt. He pried it from its bed with a strong dental hook. It proved to be an incisor tooth. There was no tooth missing, and no irregularity in the growth of the teeth of the patient; therefore he looked upon it as a superfluous, not an inverted tooth. Its location was an inch and a third from the bony margin of the nose, and two inches and a half from the tip of the nose.

*Seifert* (*Privat-docent* at Wurzburg).—After a review of the literature he is able to find on the subject, Dr. Seifert reports the following case: A man, aged twenty-five years, was sent from the Polyclinic for Diseases of the Ear with the note that the right nostril was com-

pletely occluded. Examination showed on the floor of the right nostril, about two centimetres from the entrance of the nose, a foreign body, hard and white, lodged in a mass of granulation tissue which extended a little over it. Having lifted the granulation tissue by means of an *écraseur*, the foreign body could be pushed backward and extracted through the posterior nares. It could not be determined with certainty in what manner it had become fixed in the nose. Exploration with the sound revealed no roughened bone or fissure. It was recognized as a tap-rooted or pivoted tooth, which was partly incrustated with calcareous salt. The dentition was complete, the teeth well formed and without other anomaly. The upper jaw was also normal in conformation. Patient had not had any suspicion of the presence of a foreign body in his nose. In this case, as in that of Daas, there had occurred an invagination of the dental germ into the nasal mucous membrane.

*Brindel, A.*—Dr. Brindel, under the heading *A Tooth Implanted at the Entrance of the Right Nasal Fossa, with Reflex Troubles* (Accession of Cough and Laryngeal Spasms), reports the following case: Mrs. B., a servant, aged sixty-two years, consulted Mr. Moure at the clinic for diseases of the nose, larynx, and ears. She complained, not of the presence of a foreign body in the nose, for of that she was unconscious, but of accessions of cough and spasms of the larynx coming on at irregular intervals. She had at times three or four accessions in the same day, on other days none. Twice the spasms had been sufficiently severe to produce syncope. This had gone on for five years. For a long time she had had a tooth abscess on the right upper jaw, opening into the buccal cavity, but of which she could give us only very vague accounts. On account of the cough and laryngeal spasm, Mr. Moure thought there must be a question of reflex trouble from the nasal pharyngeal or laryngeal point of departure. The pharynx and larynx showed nothing abnormal, but at the entrance of the right nasal fossa could be seen a white, round body covered with mucus, having the form of a tooth and imparting to the probe the feeling of bone. It was, in fact, a tooth implanted in the floor of the nasal fossa, which emerged for about half a centimetre from the mucous membrane. It was covered with enamel which was notched. The upper part, concave and rugose, gave exactly the appearance of a carious tooth. One could impart slight lateral movement to the tooth. The upper jaw, very well formed, had not had since the age of twenty-eight years either incisors, canines, or little molars on the right side, but she said she had had a normal dentition and the teeth had been well placed, decaying very early. The tooth was extracted with an ordinary forceps. Extraction was easy and not attended by the loss of much blood. It had the root implanted in the superior maxilla, pointing from above downward—in the opposite way, consequently, from normal teeth. An interesting fact is that the patient has not had the least accession of suffocation since the day when the supernumerary tooth was removed.

*Watson, A. W.,* Philadelphia.—Written communication of an unpublished case from Dr. Arthur W. Watson, of Philadelphia.

"The case was of a man, thirty-three years of age, who had a sarcoma of the right nasal chamber, involving primarily the inferior turbinate bone—subsequently the whole superior maxilla. During an attempt, under ether, to remove the diseased tissue, the instru-

ment struck a hard substance imbedded in the tissues under the inferior turbinate bone. On removal, this proved to be the root, or part of the root, of a tooth.\*

Graham, George W., Charlotte, North Carolina.—A child, female, aged ten years, was brought to Dr. Graham for treatment for nasal catarrh. Eighteen months previously the child had run against the iron hinge of a gate and knocked out one of her front teeth—the right central incisor—and otherwise injured her mouth, which bled profusely. An examination of the nose showed the left nostril normal, the right nostril filled with a polypoid growth from beneath which there oozed constantly a watery fluid. After removing the excrescence, the tooth which had disappeared was discovered firmly imbedded in the inferior turbinate bone; the crown presented to the front. The girl had struck the hinge with such force as to drive the tooth entirely through the superior maxilla and bury it in the nasal bone, and so thoroughly had it united with the parts that it was impossible to remove it with forceps without doing further injury to the nose. With the assistance of Charles L. Alexander, dentist, the tooth was soon severed from its connections. The patient had a perfectly normal condition of the remaining teeth.

MacCoy, Alexander W., Philadelphia.—Anna S., of New Jersey, white, aged forty-five years, came under my care having the following history. Family history shows phthisis and eczema. Personal history: Has always been delicate. Shortly after birth she had a gathering just beneath the right orbit, which opened and remained a suppurating sore for several years. There was extensive necrosis of the bones of the face on that side. This finally healed after the condition had lasted for several years. The depression resulting from the loss of bone can be seen and felt. She was born at full term. At time of birth she had two teeth on the right side of the upper jaw just behind where the eyetooth normally is. These were pulled by the doctor in charge a short time after birth. Her primary dentition was normal, all the teeth coming through except the one just back of the right eyetooth. These teeth, which she got when a child, remained permanently, and she never had a second dentition. Her teeth were always bad, and she suffered so much from them that in 1884 she had them extracted, and has since worn artificial teeth. Ever since she can remember she had catarrh of the right nostril. Very offensive discharge. Occasionally small pieces of bone came away in the discharge, the size of finger nails, black and ragged and felt gritty. In 1884 she sought relief at a dispensary. At that time she could feel a gritty substance beneath her right orbit, as though there was a piece of loose bone there. She could also feel a hard substance in her nose by inserting her finger. She continued going at more or less frequent intervals to the dispensary. In September and October, 1895, she suffered so intensely from occipital and temporal headache that in the first week of October she went to the Out-patient Department of the Pennsylvania Hospital, where she first came under my care.

Inspection of the right nasal chamber showed a pinkish-white glistening object on the floor of the nasal fossa, which appeared to project from it, and resembled a polypus in color. Examination by probe revealed hardness, fixation, and sensation of bone, and the object was dignified a tooth—root presenting. The distance from the vestibular opening was four centimetres; the visible projecting root one centimetre in length, directed at a slightly oblique angle

toward the median line and free from contact with the nasal chamber. The right nasal cavity was markedly irregular, the anterior portion of the lower turbinate bone being rudimentary. The surface of the floor of the nose was very irregular, with marked deflection of the nasal septum to the left. Great hyperæmia of the mucous membrane existed.

The removal of the tooth was accomplished without much difficulty by the use of long, narrow sequestrum forceps. Upon its removal the hæmorrhage was free, followed some hours later by secondary hæmorrhage. No necrosis of the surrounding bony tissue was observed. After rapid healing, a depression remained in the floor of the nose where the tooth had been. The occipital and temporal pain was markedly relieved, and the local and general condition greatly improved. Examination showed the tooth to be a permanent bicuspoid.\*

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\* At the last meeting of the American Laryngological Association my attention was directed to a translation of an extract from a letter by Goethe, dated Stuttgart, September 6, 1797, in which he describes a tooth in the nasal cavity. To Dr. Jonathan Wright of Brooklyn, we are indebted for bringing to light this unique case. The article appeared in the *Medical Record* of May 19, 1894. This report of Goethe's is in all probability the earliest mention of a tooth found in the nasal cavity.



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NOTE.—I take pleasure in acknowledging my indebtedness to Dr. Francis R. Packard for the reference work in this paper.

## THE EARLY RECOGNITION OF UTERINE CANCER,

WITH SOME REMARKS ON ITS TREATMENT.\*

By D. ERNEST WALKER, M.D.

WITHIN the last few years the importance of this subject has been more and more impressed upon my mind, and, while I shall not offer anything new as to the symptoms or treatment of this dread disease, I believe that these symptoms and the importance of their early recognition should be repeated and repeated and repeated, until they can not be overlooked nor forgotten.

Coming in contact with many cases of this disease, both in early and in advanced stages, I have noted time and again the woeful carelessness of medical attendants to whose notice these symptoms had been brought. I say carelessness, because after all that has been written and rewritten on the subject of uterine cancer, I can not believe that any man of ordinary intelligence who reads can be ignorant of the symptoms and signs of this disease when they are plain and unmistakable. I believe, therefore, that repetition again and again is the only way in which to impress the importance of early symptoms of this disease upon the profession at large. And upon its early recognition depends the only hope of successful treatment. The observation of symptoms pointing to cancer depends, as a general rule, upon the family physician, the successful treatment in most cases upon the specialist, and the recognition of symptoms of the disease in its early stages is of as much importance to the one as to the other.

But a few days ago I took the histories of two women with cancer of the uterus too far advanced for any except palliative treatment. Both of these women had danger signals pointing to cancer of the uterus for months and had consulted their physicians about these symptoms. In both instances the trouble had been ascribed to the menopause, and no examination had been made until too late. The histories I obtained from these women did not lead me to believe that either of their physicians were ignorant men or that either failed to suspect the true state of affairs; yet both pa-

tients were allowed to go on for months with the old threadbare explanation of the menopause to account for every symptom until the last hope of successful treatment was gone. To make matters worse still, each case gave a family history of cancer.

Now what is the explanation of this? How is it that an educated physician within twenty-five miles of New York—yes, even under the shadow of the Academy of Medicine—can attribute frequent and increasing uterine hæmorrhages, sanious and watery discharges, and progressive anæmia, sometimes accompanied with pelvic pain, to the menopause, and make no examination, though consulted again and again? Is it ignorance? In this age of societies, books, and journals one can scarcely think so. Yet if this be true in some instances, the early signs and symptoms of cancer of the uterus must be repeated until, like the child's *a, b, c's*, they must be recognized. How is it that the hæmorrhages must even become fetid before some physicians seem to suspect or wake up from ergot, styptics, etc., to the fact that something must be done—when nothing can be done? Is it because of the fear of losing fees or that other men may get the patient? A greater mistake is never made, for if perchance, as often happens, the patient finds there has been a failure to recognize so serious a trouble until too late, and that valuable time has been lost, not only the patient and her family, but often all their friends, seek other advice and spread their story far and wide.

How is it that a physician does not discover that a case is beyond all chance of benefit from his treatment until it is beyond the skill of any one? Is it because he considers cancer of the uterus incurable—that it is sure death any way, and therefore unworthy of his best effort? He should read and he will find that statistics show a large percentage of permanent recoveries from early removals. While all these things may play some part, I believe that most of the failures to make an early diagnosis of this disease, when it presents symptoms, is due to carelessness. How prone one is to say to himself when consulted with reference to some of these symptoms, which at first appear trivial: "Oh, this woman can't have cancer—I know all the family and there is no history of cancer in it. It is not convenient to examine her now, and besides, it is only the menopause causing a little disturbance. I don't want to frighten her by treating the matter seriously, and it must be all right." So you prescribe something, and ascribe the symptoms to the menopause—remarking that when that is over she will be well. This, to her, explains every ill, for she has from her youth heard stories concerning the change of life and is prepared to expect anything. So she goes away and the symptoms continue, but as she does not suffer she does not consider it necessary to consult you again. Then you begin to think your lingering fear of cancer in her case was groundless, as you hoped it was, and you get rid of your twinges of conscience. About the time your last twinge is gone you

\* Read before the Society of the Alumni of the City (Charity) Hospital, October 14, 1896.



see her somewhere and notice she has grown pale. She tells you that the symptoms she had before have continued and of late have grown worse; that she also suffers sometimes now from pain. On examination you find a large growth involving not only the cervix but the vaginal wall, or a tumor of the body of the uterus with fixation, or some other equally serious condition of a like nature. This, I believe, often accounts for a failure to make an early diagnosis. We fight against our own conviction of the truth, and, knowing that we may be mistaken in suspecting cancer, we hope we are, and temporize with danger instead of sifting the matter at once. We dillydally and talk of the menopause instead of regarding these signals of danger as something which, if properly heeded, will save our patient from disaster.

If we suspect a woman has cancer, is it just and right to conceal the suspicion in our own bosoms when to her it is a matter of life or death? Is it not our bounden duty to use every means in our power to decide the question, laying the facts before some member of her family, or, if need be, before the woman herself? I fear that we go too far in the concealment of danger from the victim. Is it not analogous to allowing an individual to walk unwarned across a bridge which is sure to fall and engulf him? Do we not sometimes sacrifice duty and the lives of others rather than place ourselves in a disagreeable position? It is so much easier to let things glide along, and in the end our fears may prove, as we wish them to be, groundless.

I shall not go into the pathology of uterine cancer nor into a description of its different varieties, but shall merely mention its most prominent symptoms, the early signs of its presence, which are so often unheeded. These symptoms are practically the same in all varieties. Unfortunately, however, some cases do not present early symptoms, or, if they do, medical advice is not sought. With these this paper has nothing to do. The trouble is not that the symptoms are unknown, but that they are unheeded—so I shall not go deeply into symptomatology. This is more thoroughly treated in text-books than could possibly be done in the limits of this paper.

The most prominent symptom is hæmorrhage of an irregular character, both as to time and quantity, occurring usually about the menopause—an increase in quantity, and, perhaps, irregularity, if the menopause has not occurred; and a return of hæmorrhagic flow if that period is past. Later, there is generally a watery discharge, sometimes of a bloody, serous character. Sometimes the first symptom is hæmorrhage after coition. Any moderately profuse vaginal discharge occurring about the menopause, no matter what its character, should excite suspicion, and an examination should be made. The hæmorrhages may often be mere stains on the linen. When a small tumor, which you know a woman to have and which has caused no previous trouble, begins to enlarge and is attended with pain or hæmorrhage, it

becomes very suspicious, and so does any new growth or hardening of the cervix uteri which you observe. Pain is rarely a symptom early in this disease.

Given a case of suspicious symptoms in a woman, especially about or following the menopause, our first duty is to make a thorough examination. If there is any enlargement of the cervix or body of the uterus, a hardened or patulous condition of the cervix, or any growth or ulceration in or upon it, the suspicion should be considered confirmed until it is disproved; for this is a case where it is proper to consider one guilty, so to speak, until he is proved innocent. This can be done only by microscopic examination of pieces cut from the cervix, or scrapings taken from the endometrium with a sharp steel curette, or both. The pieces should be cut as deeply as possible from the cervix, and the curetting should be very thoroughly done. The specimens should then be sent to some reliable pathologist, and if the report is unfavorable, you are brought to the consideration of the treatment that offers your patient most chances of permanent cure. It is, I believe, to-day an almost undisputed fact with the profession that total extirpation of the uterus and its appendages offers by far the best chance of a permanent cure, always bearing in mind that the ultimate success of the operation depends upon its being done before the disease has extended beyond the tissues of the uterus proper, before fixation occurs, and before it has involved the vaginal wall or infiltrated any of the adjoining structures. When thus done, the percentage of ultimate recoveries is very good. Hofmeier has reported thirty-three per cent. after four years; Fritsch, thirty-six per cent. after five years; Schauta, of Prague, 47.3 per cent. after two years; Olshausen, 47.5 per cent. after two years; the Dresden Klinik, 58.4 per cent. after two years; and Leopold, seventy-two out of seventy-six patients still well and with no return after five years and a half.

Not only does early operation offer these advantages, but it is free from one great objection to all other methods of treatment so far tried—namely, its performance does not preclude the trial of other measures. In those cases which it does not permanently cure it prolongs life—unless, as is rarely the case, the patient dies of the immediate effects of the operation. Therefore, a better chance is offered for the effect of any internal treatment, such as thyroid or other glandular extracts or toxins. If these are ever effective, as is claimed, in large or advanced cancerous masses, they should prove much more speedily so in small ones, or in those tissues which are just taking on a cancerous condition. Thus, early operation would prove an aid rather than a detriment to their use, and consequently should not be opposed by the most skeptical. On the other hand, the same can not be said of the use of internal remedies and local applications, since they cause delays which are fatal to successful operation.

Apparently the chances of a complete cure from

operation are much better in those who are attacked with cancer of the uterus during or after the menopause than in those who have it before that period. This is probably explained by the fact that the generative organs are in a much more active state before than after the menopause, when atrophic changes begin, and the adjacent structures being also more active and full of blood are more easily and rapidly invaded.

In conclusion, I would suggest that the profession attempt in every way to eradicate from the mind of the laity the idea that the menopause is a sufficient explanation of every symptom affecting the female pelvic organs at or about that period; just as they are gradually getting rid of the old and pernicious belief that "catching cold" is responsible for puerperal fever and other septic troubles.

219 WEST FORTY-THIRD STREET.

## URIC ACID AS A FACTOR IN THE PRODUCTION OF HAY FEVER.\*

By NORTON L. WILSON, M. D.,

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IN 1885 it was my privilege to present for your consideration the subject of tonsillitis, at which time I pointed out what appeared to me to be the cause of certain forms of this disease—viz., uric acid. The paper was thoroughly discussed, and some of the gentlemen present expressed themselves as never having heard of the theory before. To-day, I believe, this is a generally accepted theory. I further wish to present for your consideration the effect of uric acid not only upon the mucous membrane of the throat but upon the entire respiratory tract. Especially would I call your attention to uric acid as a very important factor in the production of hay fever and asthma. In 1892, while in conversation with a medical friend, I was induced to purchase a book entitled the *Relation of Alimentation and Disease*. This book contains a chapter on asthma, its cause, pathology, and treatment. The chapter begins thus:

"All heavy horses are hogs. Heavy horses do not know when they have eaten enough. Heaves in horses corresponds to or is the same kind of disease in them that asthma is in man. All asthmatic people are unhealthy feeders and overeaters. They have a craving to keep the stomach full."

This and many other similar expressions I read to my asthmatic patients, and almost without exception they expressed themselves in very forcible language as to the idiocy of the author of that chapter. Some of them admitted, however, that their attacks came on shortly after eating, and others said they were small eaters; and

in some instances I knew this to be true. The author of that book goes on to say that "asthmatics are all dyspeptics of an especial type. They are all flatulent with carbonic-acid gas. Their stomachs are full of fermenting products. This special type of dyspepsia always develops a 'gravelly diathesis.'"

Although I do not accept the teaching of this author or agree with him in his mode of treatment, I must, however, acknowledge that my first insight as to the cause of the disease, or rather one of the important factors in the production of hay fever and asthma, came from the perusal of that book. I have constantly kept in mind the thought that the respiratory mucous membrane was in some way or other irritated by uric acid. I not infrequently see a peculiar reddened and glazed appearance of the mucous membrane of the pharynx, and often an cedematous soft palate and pillars of the fauces, with dilated and tortuous blood-vessels, which, after exhausting all other methods of treatment without success, will immediately clear up under salicylate of sodium.

The exact mode of production of uric acid in the body is still a matter of uncertainty, but, according to the majority of workers in this field, it is undoubtedly associated with nitrogenous metabolism, and the acid represents an imperfectly oxidized form of nitrogenous material. The final destination of uric acid is its conversion into urea, but from lack of perfect oxidation in the tissues this process is checked.

I determined to examine the urine, the blood, and the sputum of these patients and see if it was not due to excess of uric acid within the system. From the sputum I gained but little knowledge, because it was sometimes the secretion from the upper pharynx, sometimes from the bronchial tubes, and always more or less mixed with saliva. From the blood I gained this fact, that when the patients suffered most the blood was the most strongly alkaline (at which time it is richest in uric acid). I found the urine in some cases loaded with uric acid or urates, and in others it contained but little. I worked along this line, and it was uphill work, for many times when I supposed I had established this theory to my entire satisfaction I was met by some obstacle which almost annihilated my pet theory. Occasionally, however, I would see something which would give me fresh courage, and to-day I feel confident that uric acid is a potent factor in the production of hay fever and asthma. Of course, I allude to the asthma following hay fever. In reading Dr. Haig's book on uric acid I was led to see why so many of my cases did badly on salicylate of sodium. He does not mention asthma as being due to uric-acid diathesis, but I think I can establish that fact, and he will help me to do it by showing me errors in the administration of certain drugs. He has shown that quinine, in small doses, squeezes uric acid out of the spleen, thus producing uric acidemia, while a larger dose—six to fifteen grains of the sulphate—will

\* Read before the meeting of the District Medical Society of the County of Union, held in Plainfield, N. J., October 11, 1896.

have the action of a sulphate, which clears the blood of uric acid and thus benefits these cases. I have frequently benefited asthmatics by ten grains of quinine, and I know this to be the basis of a popular "quack cure."

He has shown that opium, cocaine, antipyrine, caffeine, strychnine, acids, iron, lead, lithia, manganese, calcium chloride, acid phosphate of sodium, some sulphates, chlorides, mercury, the nitrites, and some hyposulphites, either directly or indirectly raise the acidity of the blood or form insoluble compounds with uric acid. All these substances diminish the excretion of uric acid and bring about its retention and accumulation in the body. They drive the urates out of the circulation into the joints and fibrous tissues, also into the liver, spleen, and other organs.

Acidity of urine bears a fairly constant relation to urea, both tending to rise and fall together, and the relation given by Haig (one of acidity to 6.6 of urea) is very constant. "Whatever raises urea raises acidity, and *vice versa*. On the other hand, the alkalies (except lithia), phosphate of sodium, and compounds of salicylic acid, increase the excretion of uric acid in the urine, and for a time also increase the amount of it in the blood by raising the alkalinity of that fluid." If these statements are correct—and I have no reason to doubt them, as they agree with some observations made by myself—I should at least be able to make some impression upon my hay-fever patients, if, as I have stated, uric acid is a factor in its production. Since Bostock first described the affection, in 1819, it has been written upon largely by English and American authors, and I think it is pretty well established that three important factors are essential for the production of the disease:

1. The predisposing constitutional condition.
2. An external irritant.
3. A pathological condition of the nasal mucous membrane.

The predisposing constitutional condition is a neurosis, and who can say that this condition of the nervous system is not due to irritation by uric acid? It is a recognized fact that neurasthenia and lithæmia go hand in hand.

The second factor is an external irritant. I care not whether this be the emanation from certain plants, dust, odors, pollen, or any other mechanical irritant, my experience with mucous membranes has shown me that uric acid is a very important irritant, and I can see no reason why it should not act as such in autumnal catarrh.

The third factor is a pathological condition of the nasal mucous membrane. This may or may not be the result of irritation, and, so far as I can see, the uric-acid theory combines all three of these factors, for it not only induces a neurosis, but acts as a local irritant, which brings about pathological changes of the nasal mucous membrane. It is not necessary for me to say

anything about the symptoms of this peculiar disease, as you are all familiar with them, but I can not but allude to the paroxysmal sneezing, which is very apt to be worse about 4 A. M., or just as the patient arises in the morning. In most of the text-books it is set down that the sneezing is due to irritating dust or pollen grains. This I must deny, inasmuch as there is no dust or pollen grains in the bedchamber at that hour in the morning. In my opinion it is due to the neurotic tendency, and until I found that it occurred on dark or rainy days I ascribed it to the action of sunlight. I am now of the opinion that it is due to uric acid, since you will remember the blood at this hour is strongly alkaline, and there is more uric acid circulating in this fluid.

This brings me to the important part of this paper, Can we do anything to relieve our hay-fever patients? and before giving you my experience I want to quote Dr. Bishop, of Chicago, who has recently published a very interesting article on this very subject, and I may say truthfully that I was not aware when I wrote my previous remarks that others were working in the same field. This, however, encourages me to continue my observations, for I now feel that I am not alone in my belief.

Dr. Bishop says (in the July number of the *Laryngoscope*): "An excess of uric acid in the blood causes hay fever, or nervous catarrh. Attacks can be stopped by precipitating the excess of uric acid from the blood by rendering the latter less alkaline with an acid treatment." He, too, refers to Haig, and has evidently absorbed some of the ideas which caught me. He goes on to say: "While pursuing the study of gout and allied diseases dependent upon lithæmia, I was struck with the close analogy between the conditions present, with their local manifestations, and the various phenomena of hay fever. The theory that the paroxysms of hay fever are due to a uric-acid toxæmia is not antagonistic to the present status of medical opinion or surgical treatment; but, on the contrary, explains questions that were inexplicable before. The uric-acid hypothesis explains why some persons suffer from attacks under certain conditions in winter as well as during the warm months."

The periodicity of hay fever has a counterpart in migraine, which comes once in every seven, ten, fourteen, or thirty days, for years or for life. But enough has been said to lay the base line of a treatment that has proved vastly more successful than any other thus far devised.

I must admit that I am not so sanguine as Dr. Bishop, and yet I want to lay before you, in an impartial manner, the results of my labors in this direction. You will remember a few years ago several eminent rhinologists, chief among whom was Dr. Daly, of Pittsburgh, and Dr. Roe, of Rochester, advocated the theory that it was "a local chronic disease, upon which



the exciting cause acts with effect." They had in their minds, however, that the exciting cause came from without and not from within. I have cured some cases by removal of hypertrophies, spurs, polypi, etc., but I am satisfied they would still have their hay fever had I not made some change in their diet. This is the age when the medical profession at large is recognizing lithæmia, not only by swollen and painful joints, but by disease of the eye, the ear, the throat, the heart, the spleen, the liver, the gastro-intestinal tract, and, in fact, almost every organ in the body will show evidences of uric-acid poisoning.

Just as the dermatologist often recognizes eczema as an expression of uric acid, so do I recognize hay fever as a lithæmic condition. If you will consult the appended table you will see that ten out of the eighteen cases had eczema in some form or other. If uric acid is the important factor in the production of hay fever and asthma, why is it that it usually makes its appearance about the middle of August, especially when most people eat but little meat during the summer? In health about five to eight grains of uric acid are secreted every twenty-four hours, and it is readily soluble in the blood, which is slightly alkaline. If there is increased formation of this acid no harm results so long as it is promptly eliminated and the ratio between it and the urea is not disturbed. Anything which will produce a low nutrition will produce uric acidæmia. About the middle of August you will find a marked change in the weather, when it is usually cooler and often damp for a day or two. Invariably, as soon as this change comes you will find the hay-fever symptoms begin. I have records of the weather for the past six years, and you can almost to a certainty pick out the date of attack by the drop in temperature. This year it was about the 8th of August, and again on the 14th, when the highest temperature was 74° and the weather cloudy. The table shows that my first cases this year began on the 10th, and six of them on the 15th.

The sudden drop in temperature diminishes perspiration, raises acidity, freeing the blood from uric acid and driving it into the tissues. In two days the temperature suddenly goes up, and then you have a uric acidæmia which irritates the already exhausted nervous system and mucous membranes. Nutritive disturbances are brought about by overdrinking, especially when combined with deficient muscular exercise. Once irritated, the respiratory tract is kept in a constant state of irritation until the uric acid is driven from the blood by the onset of cold weather.

I do not mean to say that every case of uric-acid diathesis is a hay-fever subject, any more than I would say every such case had eczema, but I do mean to say that there is a very close relationship between uric acid and hay fever, and I do say that every patient having a neurasthenic tendency, if you please, and a pathological mucous membrane of the respiratory tract is irri-

tated by uric acid, and thus far my observations have led me to suspect it in every case of periodic hyperæsthetic rhinitis. In the treatment of these cases the greatest care must be exercised. You must ever keep in mind that alkalies, salicylate, etc., produce a uric acidæmia so long as there is an increase of uric acid within the system. During the attack they must be used with care and in small doses. I have certainly increased the severity of an attack by giving ten grains of salicylate of sodium three times a day. During the attack it is better to free the blood from uric acid by the administration of an acid. Aromatic sulphuric acid or phosphoric acid acts very well. After freeing the blood, gradually extract the uric acid from the tissues by two- or three-grain doses of salicylate of sodium (given three times a day), cut off the acid-producing foods, such as meat, beer, wine, cider, lemonade, etc. Keep your patient's nervous system in the best possible condition by proper feeding, hygienic measures, and nerve tonics, if necessary. See that no polypi, spurs, or hypertrophies exist in the nostrils. Begin a crusade against uric acid six weeks or even two months before the time of attack.

For the local relief, I have found menthol and camphor in liquid alboline, very gently sprayed into the nostrils, effectual in some cases. There are cases, however, which are apparently irritated by this solution, and for these I have found, if I would contract the tissue with a six- or ten-per-cent. solution of cocaine, and then gently coat the turbinate with a thin film of flexible collodion, they would experience relief. For the itching and irritation of the conjunctiva, hot water or yellow ointment rubbed into the conjunctiva will afford relief.

I can not close this paper without expressing my belief of the use of lithia. For the past three years I have failed to see a case of uric-acid diathesis benefited which I could ascribe to the action of lithia. In other words, the amount of water which these patients are obliged to take is, in my opinion, the factor for good, and not the lithia. Haig goes so far as to say that "lithia is a good solvent of uric acid in the test-tube, but in the body not only is it a poor solvent of that acid, but it actually combines with the phosphates in the blood and prevents its action on uric acid, so that the fact is lithia retards rather than increases its excretion."

I have hinted at rather than given any definite plan of treatment, and hope you will next season be able to give me the benefit of your experience. I think I can truthfully say that every patient on the list has received some benefit so far as the hay fever goes. This can not be said of their asthmatic symptoms, however, as three of them suffered quite as much as in previous years, but I have seen enough of the treatment to encourage me to begin early next season, and I feel confident I can at least mitigate their symptoms.

NAME.	Asthma.	Acute articular rheumatism.	Rheumatic pains in joints or muscles.	Eczema.	Time of sneezing.	Pathological conditions in nose.	Do you have attacks in summer only?	Date of attack this year.	Date of asthma this year.	Are you immune at sea or on the water?	Where are you free from hay fever?	Age when first attacked.	Are you much of a nasal snorer?	Do you have nose cold?	Has my treatment benefited your hay fever?	Has my treatment benefited your asthma?
Mr. C. E. ....	Yes.	No.	Yes.	Yes.	11 A. M.	Yes.	No.	Aug. 14.	Aug. 14.	No.	Don't know.	20 yrs.	Yes.	Yes.	Yes.	Yes.
Mr. H. S. ....	Yes.	No.	Yes.	Yes.	7 A. M.	Yes.	Yes.	Aug. 10.	Aug. 31.	No.	Don't know.	22 yrs.	Yes.	Yes.	Yes.	Yes.
Mr. A. M. ....	Yes.	7 yrs. old.	Yes.	Yes.	7 A. M.	Yes.	Yes.	Aug. 20.	Aug. 27.	No.	Adirondack; White Mts.	18 yrs.	Yes.	No.	Yes.	No.
Miss S. ....	No.	No.	Yes.	No.	6 A. M.	No.	Yes.	Aug. 25.	.....	No.	Don't know.	7 yrs.	Yes.	No.	Yes.	.....
Miss M. ....	Yes.	No.	Yes.	No.	4 A. M.	Yes.	Yes.	Aug. 16.	Aug. 20.	No.	Don't know.	10 yrs.	Yes.	No.	.....	.....
Mr. F. ....	No.	No.	Yes.	Yes.	7 A. M.	Yes.	Yes.	Aug. 14.	.....	No.	Don't know.	10 yrs.	Yes.	No.	No.	*
Master B. ....	No.	No.	Yes.	Yes.	9 A. M. and P. M.	No.	Yes.	Aug. 10.	.....	No.	Don't know.	7 yrs.	Yes.	Yes.	Yes.	.....
Miss P. ....	Yes.	No.	Yes.	No.	7 A. M. and P. M.	Yes.	No.	Aug. 15.	Aug. 25.	Don't know.	Don't know.	11 yrs.	No.	Yes.	Yes.	Yes.
Mrs. D. ....	Yes.	No.	Yes.	Yes.	5.30 A. M.	Yes.	Yes.	Aug. 15.	Aug. 22.	Don't know.	Don't know.	22 yrs.	Yes.	No.	Yes.	Yes.
Mrs. G. P. ....	Yes.	No.	Yes.	Yes.	4 and 7 A. M.	Yes.	No.	Aug. 15.	Sept., '95.	Don't know.	Don't know.	20 yrs.	Yes.	No.	Yes.	No.
Master D. ....	No.	No.	Yes.	No.	4 A. M.	Yes.	Yes.	Aug. 15.	.....	No.	Don't know.	4 yrs.	Yes.	Yes.	Yes.	.....
Mr. W. D. ....	Yes.	No.	Yes.	Yes.	Early morning.	Yes.	Yes.	None.	None.	No.	Don't know.	20 yrs.	Yes.	Yes.	Yes.	Yes.
W. T. (negro).	No.	No.	Yes.	No.	Early morning.	Yes.	Yes.	None.	None.	No.	Don't know.	5 yrs.	Yes.	No.	Yes.	.....
Mrs. E. M. W.	No.	No.	Yes.	Hives.	8 A. M.	Yes.	Yes.	Aug. 13.	.....	No.	Don't know.	30 yrs.	Yes.	No.	Yes.	.....
Mr. W. D. ....	No.	No.	Yes.	Yes.	7 A. M.	Yes.	Yes.	Aug. 14.	.....	Don't know.	Don't know.	20 yrs.	Twice daily.	No.	Yes.	.....
Mrs. W. S. ....	Yes.	No.	Yes.	No.	4 A. M.	Yes.	Yes.	Aug. 25.	Aug. 25.	Don't know.	Don't know.	48 yrs.	Once daily.	No.	Yes.	No.
W. A. C. ....	Yes.	No.	Yes.	Yes.	7 A. M.	Yes.	No.	Aug. 15.	June 20.	Don't know.	Don't know.	1 yr.	Yes.	No.	Yes.	Yes.
W. M. A. ....	No.	No.	Yes.	No.	8 A. M.	Yes.	No.	Aug. 20.	.....	No.	White Mts.; Adirondack.	14 yrs.	Yes.	Yes.	Yes.	Yes.

\* Did not carry out treatment.

## EYE STRAIN AS A CAUSE OF EPILEPSY, AND THE RESULTS OF EYE TREATMENT.

(A REPLY TO DR. FREDERICK PETERSON.)

By AMBROSE L. RANNEY, A. M., M. D.

DURING my summer vacation, the letter of Dr. Peterson in your issue of August 8, 1896, demanding that I produce a single instance of the cure of epilepsy by eye treatment, and containing the implied insinuation that I had never had such a case, has remained unanswered.

In order that the reader may appreciate the origin of this correspondence and the points at issue, before I endeavor to make my final reply, I think it wise to give the following *résumé* of the letters already published by Dr. Peterson and myself in your *Journal* relative to reflex epilepsy.

On June 20th I took issue with Dr. Peterson when he made three statements in a contribution in this *Journal* (June 6, 1896):

1. That "reflex epilepsy is so rare that the proportion of cases in which a reflex cause will be found is certainly not above one or two in a thousand."

2. That "authentic and trustworthy instances of the kind recorded in literature could easily be counted upon the fingers."

3. "That the removal of reflex irritation will seldom alter the course of the disease."

I shall to-day confine my reply to these three points only.

All side issues must be avoided, in order that the reader shall not have his mind at any time diverted from the quoted propositions of Dr. Peterson. These I believe to be incorrect and hasty.

Unfortunately for the general information of the reader, neither my engagements nor health will permit at present of an exhaustive search throughout the medical literature of the past twelve years for all cases of reflex epilepsy that have been treated by dentists; by the removal of nasal growths, scars, etc.; by the fixation of the kidney; by the removal of the ovaries and treatment of the various organs of the pelvis; by trephining of the cranial vault; by circumcision; by massage of the testicles; and by various other steps that have been employed in cases of epilepsy with reported restoration to health.

To prepare a table that would be worthy of record as an exhaustive *résumé* of the reflex causes of epilepsy to date would require (as Dr. Peterson knows) many months of research and a proportionate amount of correspondence—while it would serve no purpose to me, except to substantiate a statement made by me, viz., "that hundreds of cases of cures of epilepsy by the removal of reflex causes have been reported in medical literature."

I feel that I can (in justice to myself) employ my personal time to far better advantage in my own line of work, and that I should not be called upon by any one to report upon the work of others, or to defend their position. The request of Dr. Peterson that I do so is one of the side issues that might be productive of interesting data; but such research is not essential to the refutation of his published deductions (as quoted), because more direct facts are attainable with less labor on my part from my own published cases.

Neither does it pertain to fair argument to ask or to answer such questions as these:

"Does he (Dr. Ranney) know how many patients with incurable epilepsy are now undergoing treatment by neurologists, who had previously undergone treatment by himself and other oculists in the hope of cure?"

Would not such a question apply equally well to any method of treatment? Has any one ever maintained that epileptics could always be cured? What point can be established by any such irrelevant inquiries? Do they not strike any candid reader rather as an attempt to cast a slur upon an antagonist than an effort to deal fairly with matters in dispute?

There has been manifested in the past by some neurologists of note an apparent desire to destroy the value of carefully kept records, by lines of fine distinction in reference to epileptic patients when treated by oculists, that do not obtain when any medicinal treatment is discussed.

This statement is not an imaginary one; nor am I the first to make it in print. It takes a fair-minded as well as logical intellect to meet distasteful facts in a kindly spirit; and quibbles over the exact type of epileptic seizures that have occurred in each patient have little value clinically as a rule, and are too often but subterfuges to avoid the conclusions that most honest men would arrive at.

I think I can safely assert that it would be a difficult matter to keep a more complete and scientific record of any individual case than by the system employed by me in my office demands. The very nature of the work compels the most exact records of minute details, made at very frequent intervals, and upon printed blanks specially ruled for the purpose.

There can be no "personal equation" in the records or the published reports. The tests are mathematically correct; the instruments employed are scientifically precise, and the results of each test are recorded (in the proper column of the printed blank) when made.

In your issue of July 18, 1896, I made use of certain pertinent inquiries relating to any future analysis of my cases when I said:

"Dr. Peterson apparently to fear to meet the array of cases that will surely be brought sooner or later to his notice, when he says that he will exclude in his count of authentic and trustworthy cases all in which the existence of 'genuine epilepsy' is not well established.

"I should like Dr. Peterson to put in print just what he intends to exclude as not 'genuine' cases of epilepsy. Are all genuine cases to be those that did not get well, and is some other term applicable to those in which the patients recovered? Is this fine distinction to be hereafter exercised on all cases in Dr. Peterson's clinic and others, with proofs of the 'genuine' type of every case, or is it to be reserved as a weapon to annihilate (with one sweep) all reported cases of restoration to health by eye treatment?"

"Would it not be sad to think of a judge on the bench giving out decisions in *ex-cathedra* fashion on questions of vital moment after he had thrown out or destroyed all the evidence that failed to establish his preconceived judgment? Is it not amusing to discuss, even for an instant, the possibility of evidence being so tampered with, suppressed, or distorted?"

These demands on my part for explicit statements as to what Dr. Peterson regards as positive indications of "genuine" epilepsy were certainly but fair to myself—yet I have thus far received no enlightenment in reply.

In this controversy, this is a very serious matter. The diagnostic symptoms of epilepsy ought to have been positively and finally stated by Dr. Peterson before any cases were brought forward by me at his demand for his critical analysis and certain rejection (if such be within the bounds of possibility). Must the "epileptic cry" be present? It seldom, if ever, is observed in cases of *petit mal* (one of the most intractable types of epilepsy); yet such attacks are classed by all authors as a form of epilepsy.

Must the patient froth at the mouth to satisfy my critic? Must the tongue be bitten? Must blood show in the saliva? Must the patient have a well-defined aura? Must the patient fall (if standing, when the seizure comes)? None of these symptoms usually occur in attacks of "*petit mal*."

When my cases have been read and analyzed by Dr. Peterson I shall expect (as will all fair-minded readers of this controversy) not a wholesale rejection of cases that do not fit his theories; not a mere assertion on his part that he does not think some of the records satisfactory; not a "straining at gnats," or quibbles over trivial matters; but a fair, dispassionate, judicial statement of what facts in each individual case are wanting to justify its acceptance by him and the medical fraternity at large.

To escape the facts that he meets by offering the absolutely ridiculous explanation that in any cases where eye treatment has cured "genuine" epilepsy (if such an admission is possible) he must attribute success purely to suggestion—a sort of permanent mental hypnotism of the patients—will not answer the requirements of this controversy.

I quote from my letter of July 18th a few paragraphs relating to this point, as follows:

"This explanation is not new! It was lately hashed up and dressed in attractive garb by Dr. Casey A. Wood, of Chicago (*New York Medical Journal*, August, 1894), and my letter in reply is to be found by Dr. Peterson in a later issue!

"It is really hard for me to be serious in discussing so absurd an argument. The operation of a graduated tenotomy is absolutely painless; it is often performed by me upon children while they chat with me over their dolls or toys; it does not confine the patient to the bed or prevent any reasonable amusement or occupation more



than a few hours; it is not looked forward to by my patients with any dread (as a rule); and it is purposely made light of by me, both prior to and after the operative step, in order to decrease alarm or apprehension."

In my reply to Dr. Casey A. Wood, I made use of about these words:

"A good spanking or a dose of castor oil has ten times the mental suggestion of a graduated tenotomy; yet who ever recorded a cure of epilepsy or other grave neurosis from such a method of treatment with the hope of causing mental suggestion?"

Regarding "genuine" epilepsy, the chief of the clinic in which Dr. Peterson assists says in his work on *Familiar Forms of Nervous Disease* \* (page 269):

"In genuine epilepsy, on the other hand, the patient usually feels perfectly well between the attacks and presents no symptoms of nervous irritation."

To show that reflex epilepsy is to-day accepted as established, this author, in a previous paragraph, discusses the special symptoms that indicate the various forms of peripheral irritations which may exist as a cause of reflex epilepsy. He specially mentions, in this connection, the detection of scars; phimosis; vaginal irritation; uterine and ovarian disease; indigestion, flatulence, and constipation; irritations of the respiratory tract; eye strain; and impacted wax in the ears.

Although this author says, in closing, that "in his experience reflex neuroses of an epileptiform type are exceedingly rare," this is, as yet, purely a matter of opinion that further investigation may modify. It constitutes one of the most important questions in this controversy.

Let me here take up for Dr. Peterson's consideration the statement of Dr. Starr relative to the evidences of local irritation between seizures in cases of reflex epilepsies from the eyes. He says (page 269):

"If the irritation is from eye strain, the patient will complain of headache (frontal or occipital), aching in the nape of the neck, or discomfort about the eyes after using them for near or far objects as the case may be."

It must be admitted, I think, that my experience in examining the eyes of epileptic patients with special reference to defects which tend to create epileptic seizures is larger than that of Dr. Starr—especially as he states that only six cases in thirty-five hundred seen by him in his clinic belonged to the reflex class (in his opinion). Therefore, when I take issue with him on the two preceding conclusions (that I have quoted), I do so on grounds that are sustained (I think) by clinical records of the eye tests of a larger number of such cases than are easily accessible elsewhere.

In my published reply to Dr. Casey A. Wood, of Chicago (*New York Medical Journal*, September 29, 1894), after he had attempted in an article on reflex

epilepsy (*New York Medical Journal*, July 7 and 14, 1894) to cast a doubt upon the existence of eye strain unless previous eye symptoms had formed an important part of the clinical history, I analyzed a number of my reported cases from this standpoint alone.

I think I showed conclusively in my reply that eye strain could exist without any eye symptoms; and I am equally sure that occipital or frontal headache and pain in the nape of the neck (while frequently present) do not exist in every case, and are not positive diagnostic points.

My reply to Dr. Wood is too lengthy to admit of reproduction here; but it is accessible to Dr. Peterson and others, should they be inclined to dispute this assertion.

Regarding the probable percentage of eye strain in epilepsy, let us see what light can be thrown upon this undecided question by the experience of another, who has intelligently examined the eyes in a very large number of cases of epilepsy.

The essay of Dr. G. T. Stevens (which received the honor of a prize and special publication by the Royal Society of Belgium \*) contains the following statement:

"Of the eighty-nine cases examined in private practice thirty-four only have been treated and observed for any length of time beyond one or two visits.

"Of this number, five have withdrawn from treatment before obtaining any relief from important ocular defects, and should not be included in calculating the results of treatment.

"The remaining twenty-nine cases have been treated only by the removal of ocular defects. Of these twenty-nine cases, fourteen may be considered well; two, who are still under observation, are believed to be permanently relieved; three others, still under treatment, have received such marked relief that it is believed that an entire discontinuance of the malady may be expected. One, who had manifested some improvement, died of accident four months after his first visit. Seven have received temporary relief, while two have manifested no improvement."

It will be seen by the reader that in almost forty per cent. of these eighty-nine cases there were sufficient eye defects to justify attempts at their removal; and, in addition, the eye tests of a large percentage of the fifty-five cases that did not undertake the eye treatment were probably abnormal, although not so figured in computing the percentage.

Nearly fifty per cent. of the twenty-nine cases actually treated by the removal of eye strain by this author are reported as cured.

In looking over my own records of epileptic patients for the past ten years, I find an equally large percentage of cases, as Dr. Stevens reports, that have been seen but a few times by me; yet the percentage of the total

\* M. Allen Starr. William Wood & Co., 1890.

\* *Functional Nervous Diseases*. D. Appleton & Co., New York.

number of cases that exhibited sufficient ocular defects to justify (to my mind) a hope of amelioration of the epileptic seizures is very much larger than I had reason to suspect (nearly seventy-five per cent).

By these preliminary remarks (prior to an analysis of the twenty-six cases of epilepsy that have already been reported by me in detail as treated exclusively through the eyes) I have endeavored to establish the following deductions:

1. That eye strain is to-day recognized by most of the eminent oculists and neurologists as a possible factor in the causation of epilepsy and other nervous derangements.

2. That the percentage of epileptic cases in which the eye factor is important has not yet been determined; nor will it be until more work is done by oculists and neurologists in this field.

3. That eye strain does not entail, of necessity, upon its victims any symptoms referable to the eyes themselves, the nape of the neck, or the frontal and occipital regions, even when the eye conditions are extremely faulty, and in cases that have severe chronic nervous derangements as a direct result of eye strain.

4. That "intervals of perfect health between epileptic seizures" do not preclude eye strain as a cause. This is the rule with victims to sick headaches—almost all of whom owe their attacks to eye strain.

5. That eye treatment has ameliorated and most favorably "altered the course of the disease" in chronic epilepsy when practised by others as well as myself.

Before I pass to the special consideration of my twenty-six reported cases of epilepsy treated exclusively by me through the eyes, I desire to quote for the benefit of the reader some extracts from Dr. Peterson's last letter (*New York Medical Journal*, August 8, 1896). I do so because I think these quotations will bear repetition here as evidence of the kindly spirit and fair statement of facts that have thus far been exhibited toward myself.

Dr. Peterson says:

"Does any one believe that the doctor [myself] would fail to rush into print at once with a report of a cure if he had one recorded in his books? Why such a concealment of cures, when he has already reported so many failures?"

"The fact is that the claims of Dr. Ranney regarding the efficacy of eye treatment are not and will not be substantiated."

Let us take up these statements in order, and see what are the facts!

Of my published cases (to which Dr. Peterson refers), twenty-five are to be found in the *New York Medical Journal* (January and February, 1894) and one in the *Annals of Ophthalmology and Otology* (April, 1896).

When the first set of twenty-five cases was reported, one patient (Case IV) had been seven years without an attack; four cases (V, VI, VII, and X) had

passed over two years without any evidences of epilepsy; one (Case XV) had been free from fits for over eleven months; Case XIII had been well for nine months; Case XIV had been free from attacks for six months; Case I had been perfectly well for a year; Case II had had only one attack in sixteen months; and Case XII had been perfectly well for five months.\*

Is not this a somewhat startling array of "failures" that Dr. Peterson seems to have overlooked?

I am assured, moreover, by Dr. Hedges, of Plainfield, N. J. (in a letter published here), that one of the circular letters written by Dr. Peterson to him (as well as others) inquiring about my cases was immediately responded to by Dr. Hedges.

It is probable, therefore, that a report of a total absence of attacks in Case I for nearly four years was in Dr. Peterson's hands when he wrote that "I had reported nothing but failures, etc."; because the date of the letter of Dr. Hedges published here (July 7, 1897) is nearly one month prior to the date of Dr. Peterson's letter to your *Journal*, from which the last quotations are made. I trust that the mail miscarried in this particular instance.

Again, one important fact must not be lost sight of by the reader, viz., that marked and permanent amelioration of attacks in a chronic epileptic without drugs is a very decided step in advance of anything done by medication. The former proves a scientific discovery; the latter leaves both physician and patient in doubt as to when the drug may cease to control the attacks, and what the ultimate effects of the drug itself may be. Permanent cures of epilepsy are very remarkable cases and must, of necessity, attract attention and criticism.

The therapeutics of epilepsy has to-day a very discouraging aspect. The bromide treatment is no longer regarded by most authors as a method of cure; but it is still employed because it controls epileptic seizures for a time better than any other form of medication. Practically, chronic epilepsy is to-day regarded as an incurable malady by most men of large experience and positive convictions.

Because of the hopelessness of cure of chronic epilepsies by drugs and the importance of establishing beyond criticism the permanency of results of any new form of treatment, it may not be difficult for the reader to understand (although not apparent to Dr. Peterson) that an earnest seeker after truth is obliged to wait some years before he can himself feel sure that the beneficial effects of a treatment directed to a removal of a reflex cause are but temporary and misleading.

It therefore gives me great pleasure that I am requested by Dr. Peterson now to report upon twenty-five cases the histories of which were published by me nearly three years ago, and which he chooses to designate as "failures."

\* Later reports show that some of these cases have been absolutely cured of epilepsy.

Before I do so in detail, I deem it not only wise but absolutely imperative to make some pertinent remarks relative to what causes may lead to a recurrence of epileptic seizures after eye treatment; these should in no way reflect upon the previous results obtained, nor should they be justly construed as clinical evidences derogatory to the method of treatment itself.

1. As the refraction of the eye should always be considered an important factor in epilepsy, any neglect on the part of the patient to wear the glasses prescribed or any change in the formula is apt to lead to a recurrence of the epileptic seizures.

One of the worst epileptic seizures ever encountered once occurred in a patient (who had been free from epilepsy for over a year) within an hour from the time that a strong cylindrical glass fell from the frame and was replaced with the wrong side out.

The removal of a spherical glass for a day (ordered by me for constant wear) caused an epileptic seizure. Case XI may be one of this type, also Case III (see table published later).

Patients often break their glasses or frames and unfortunately get a wrong glass put in by some inexperienced or incompetent optician. They sometimes get the proper glass improperly inserted by some local jeweler after mending the frame, etc. Such occurrences are not infrequent, and a return of epileptic seizures is particularly apt to follow.

When patients are instructed to wear strong cylindrical glasses constantly, a simple bending of the frames may throw the glasses so much off axis as to create a far greater eye strain than an actual omission to wear them. Case V in the table I believe to be an illustration of this type of accident on some occasions, although he has at times caused an epileptic seizure by excessive overloading of his stomach with wine and indigestible food.

It is needless to multiply illustrations relative to this point. The greatest care and fidelity on the part of a patient, combined with intelligence and education, can alone prevent the possibility of an occasional epileptic seizure from imperfectly corrected refraction after the case is dismissed from the care of the oculist. Among ladies, who generally insist, from vanity, in wearing eye-glasses instead of spectacles, the bending of the nose clips and spring is always apt to distort the proper adjustment of the glasses and to cause unconsciously a new source of eye strain to the patient.

It can be easily understood by the reader that what originally induced epilepsy may tend to cause its recurrence, and that neither the oculist nor the method is responsible for accidents that he can not avoid or the patients always be aware of.

Suppose a victim of malaria should be restored to perfect health by drugs, but, after a renewed and prolonged exposure to malarial germs, some evidences should appear of a return of the old malady, would it in any way reflect upon the results obtained by drugs?

2. Many chronic epileptics unquestionably (in my opinion) are influenced (even after long intervals of relief from seizures) by their former "epileptic habit."

By this I mean that under conditions of extreme nervous weakness or disturbance, such as often follow severe indigestion, anxiety, fright, loss of sleep, excessive exertion, etc., these patients are peculiarly apt to have a convulsion, where ordinary patients would have simply a headache or some milder evidence of physical depression.

Such attacks, as a rule, mean nothing. They are not to be construed as precursors of a return of the old epileptic condition. They pass without causing much if any constitutional depression; and the patient goes on (as before) free from subsequent seizures until some similar exciting cause occurs to induce one (Cases II, XXI, and XXVI, I think illustrate this point).

3. During the treatment of heterophoria\* (which in epileptics is almost universally "latent") the oculist never knows positively until a year or two has elapsed whether he has established an absolute and permanent "orthophoria."† So long as any latent muscular trouble remains, occasional epileptic seizures are to be expected, even with the greatest care on the part of the oculist as to the perfect correction of the refraction of the patient and the greatest fidelity on the part of the patient as to following the directions of the oculist.

In a happy way, some one may, before the millennium, discover a drug or other process that will enable the oculist to determine at one sitting all latent heterophoria that exists in any case, as we now are enabled to measure, while a patient is under the effects of atropine, all latent error of refraction at one sitting; but, until that time, we will have to allow the patient to disclose it by piecemeal (as it were), and to patiently wait until, by proper scientific aids, we can feel sure that we are interpreting the eye tests of the patient intelligently, and relieving the burdens as fast as they are disclosed by the patients.

Prior to the discovery of atropine, this was the way that "latent" hypermetropia‡ was treated. Glasses were given to the patient as strong as he would tolerate at first; and, gradually, their strength was increased by the oculist, as fast as the patient would tolerate the increase, until the full correction of the latent hypermetropia was apparently reached.

4. It is important in all cases of chronic epilepsy, while eye treatment is going on, to be sure, if possible, that no other reflex cause exists to keep up the epileptic seizures.

While it is my custom to have the teeth, ears, and nose of almost all patients examined by experts, and the pelvic organs of many female patients carefully looked

\* A term that covers all anomalies of the ocular muscles.

† A term that means the establishment of perfect adjustment of the ocular muscles.

‡ The condition known as far-sightedness.



into by a gynecologist, with the view of eliminating all reflex factors that may coexist with eye strain, it is not always possible to state that the removal of eye strain alone in unsuccessful cases has completed the treatment, nor is it fair to infer that the eye work has been unproductive of any benefit.

A general proposition regarding the treatment of epilepsy may be thus stated: Every reflex cause that can be detected in an epileptic ought to be removed. The amelioration of the epilepsy may not come at once, and it will not come at all in a small proportion of cases; but an effort should be made in each case to give Nature every possible chance to reassert herself by relieving the nerve centres of all sources of reflex irritation.

In concluding this article, I propose now to present, what Dr. Peterson seems particularly desirous to obtain, as full a report as I can give of each of the twenty-six cases that I have published up to this date.

At considerable trouble, I have endeavored to get (by correspondence and interviews) all the latest information possible from the patients and the physicians who sent them to me—much of which I shall publish here.

CASE I.—This patient has himself reported frequently to Dr. E. W. Hedges, of Plainfield, N. J.

Concerning him, Dr. Hedges writes me as follows:

July 7, 1896.

DEAR DR. RANNEY: Replying to your letter of July 6th, in which you make inquiry as to the present condition of Mr. B. and Mrs. G.,\* both of whose eyes you operated on for the cure of epilepsy, I can only report fully in regard to one.

Mr. B. has been perfectly well ever since. He works every day and has not had a single convulsion nor anything like one since you discharged him.

Mrs. G. moved to Buffalo about two years ago, since which time I have heard nothing as to her condition. Just previous to leaving she called upon me and declared that she was a different woman, mentally and physically, since the operation; that it seemed to her as though she had been living in a dream for years past. She had gained about thirty pounds in weight, as I remember it, and certainly looked younger and better than I had ever seen her. At that time there had been no return whatever of the epilepsy.

Dr. Peterson has written to me in regard to "the patient," whom I referred to you. I suppose he meant Mr. B., and I have answered him in substance as I have written to you.

I watched these two cases for years and saw them grow steadily worse under various forms of treatment, both dietetic and medicinal, and I am convinced beyond doubt that at least some cases of epilepsy can be cured by proper operations done upon the eyes.

I am, yours truly, ELLIS W. HEDGES.

The clinical history of this case (like those of many others in the table) when originally published by me was very incomplete. It fails to give many essential facts about the seizures of this patient that can be

now supplied. The original reports of these cases were abbreviated as much as possible by me, in order to lessen the space in the *New York Medical Journal*, that I feared was being overcrowded by me at that time.

This patient had a number of attacks in my office; so that both my assistant (Dr. W. R. Broughton) and myself had ample opportunity to observe and record the clinical features of several of these seizures.

Once, while walking from my reception room to my consultation room, he suddenly stopped; his face became slightly livid, with a fixed stare; his head was twisted to one side; his fingers and arms worked convulsively; saliva drooled from his mouth; he muttered incoherently as the attack was passing off; and he urinated in his trousers. He was perfectly unconscious for a period of about ten seconds. While some of his attacks were somewhat lighter than this, he almost always urinated in his clothing.

This case is one of my reported failures, according to Dr. Peterson, although the patient has passed nearly four years without an attack of any kind.

My critic may say that this case is one of *petit mal*—which is true! But is not *petit mal* regarded by most standard authors on nervous diseases as not only a type of "genuine" epilepsy, but also as one of the most intractable types of epilepsy?

Dr. M. Allen Starr (whose assistant Dr. Peterson is) says, on page 273 of his work: "The treatment of *petit mal* is less satisfactory than that of *grand mal*. The only remedy of any service is nitroglycerin."

I quote this author because it is hoped that the published opinion of the head of the clinic may have greater weight with the assistant than that of any other author.

In spite, therefore, of the unmistakable character of these attacks and the failure to employ nitroglycerin as a curative agent, this patient made a quick and permanent recovery after the correction by me of his eye strain.

The evidence is overwhelming! The letter of the patient has been given (1894); the written testimony of the doctor and my own published records are given here; and Dr. Peterson holds (presumably) a letter from Dr. Hedges to the same effect, if he has not destroyed it.

Prior to my treatment, the records show that from two to ten attacks occurred daily. This patient had so slight a refractive error (see table) that no glasses were prescribed.

CASE II.—This patient was referred to me by Dr. J. B. Bissell, of New York, after he had consulted many physicians, among whom were Professor E. G. Janeway, of New York, Dr. St. John, of Hartford, and (also) Dr. Frederick Peterson, of New York, who ought to remember the letter he personally wrote the patient after he began with me the eye treatment.

An unfavorable prognosis regarding marked amelioration or cure had been given this patient by Professor E. G. Janeway early in 1892, who referred him to an oculist and advised the continuance of bromides. He

\* See report on Case XII and letter.

was then having typical attacks of *grand mal* on an average of one every eight weeks, in spite of the bromides.

A letter received from the patient (October 17, 1896), in answer to one of inquiry from me, states that eight attacks have occurred in five years. This is about one quarter of his average when under bromides. He also says, "My health since March 7, 1896, has never been better, and, in fact, couldn't be better."

I regard this case as one of practical cure, although occasional epileptic seizures have occurred. The patient is no longer afflicted with the severe dyspeptic troubles that persisted until I treated him, and his physical and mental condition to-day makes a marked contrast with that which existed when he was a victim to bromides.

Unfortunately, the results in this case, that might otherwise have been expected, have been delayed by his occupation. He has to work, of late, long hours as a bookkeeper, and to wear over one eye a hypermetropic cylinder and over the other eye a combination of a myopic glass and a myopic cylinder. He has also been obliged to use his eyes almost immediately after each operative step, and systematic out-of-door exercise is often rendered impossible by his business. He has once passed eight months without a seizure; again, nine months; and again, eleven months.

I feel personally convinced that he would remain entirely free from attacks if he lived out of doors and had an occupation in which he did not have to use his eyes. He is a strong, hearty eater, and needs systematic exercise to keep him in good physical shape.

(To be continued.)

## Therapeutical Notes.

**The Treatment of Piles and Pruritus Ani with Collodion.**—Dr. D. W. Samways (*British Medical Journal*, November 21, 1896) says he has found that the itching in cases of pruritus ani disappears at once on the application of simple collodion. After a few moments of somewhat intense smarting (which can be prevented by cocaine if necessary) no further itching is felt ordinarily for twelve or twenty-four hours if at all. He supposes the ether or alcohol in which the gun cotton is dissolved stops the irritation, and the collodion film, by protecting from the air, prevents its reappearance. In cases of external piles he has observed that the application stimulates the pile to contract, that the hardening film of collodion supports the pile thus contracted, and that the contracting collodion (not collodium flexile) further reduces it. It is the principle of the elastic stocking applied to the hemorrhoidal instead of the saphenous veins, he says, and with a like result. The collodion is best applied by dropping it on a few fibres of cotton wool, which are spread over the pile each morning after defecation.

**The Copper-Arsenite Treatment of Infantile Diarrhea,** as recommended by Dr. John Aulde, of Philadelphia, has been tried extensively by Dr. Hanns Krüger, of Osnabrück (*Allgemeine medicinische Central-Zeitung*, 1896, No. 58; *Wiener klinische Rundschau*, November 22, 1896), and he finds it eminently efficient. He thinks its mode of action is by destroying bacteria.

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### RESTRICTING THE DISSEMINATION OF MEDICAL KNOWLEDGE.

DR. GEORGE M. GOULD, of Philadelphia, has issued a circular addressed to the members of the medical profession in which he asks for an expression of opinion as to the relations between publishers of medical journals and the profession. The occasion of the request is stated to be the fact that a firm of publishers has refused to allow the editors of the *American Year-Book of Medicine and Surgery* to use in preparing their abstracts articles and illustrations that have first been printed in either one of two journals issued by the publishers mentioned. Dr. Gould thinks this action on the part of those publishers is wrong. He gives his reasons for this opinion, the chief of which is that such a course interferes with the dissemination of medical knowledge. Physicians write and publish articles, he says, in order that every member of the profession may, if possible, learn of their work, and in order that science and progress may thus be furthered and humanity benefited. To check such a dissemination of our literature in reputable publications is, he thinks, discourteous and unjust to the profession and an injury to medical science.

Dr. Gould declares that no publishers in the world, except the firm he mentions, have in the least objected to the *Year-Book's* reproduction of illustrations or making quotations or abstracts from their journals. He does not state what reason the firm in question has given for denying him and his associates the permission they sought for, or, indeed, say whether or not any reason has been given. We should imagine there must be one applying to the special case, for we can not conceive of any good to be attained or any evil to be avoided by pursuing such a course as a general rule. The firm mentioned by Dr. Gould is well known for its business sagacity, and it seems inexplicable that it should take measures to deprive itself of one of the best means of advertising its journals.

We have never been able to see what harm a journal could sustain by having its contents reproduced in abstract in other periodicals or in books, provided due credit was given, as would undoubtedly be the case with the *Year-Book*. Indeed, always with the same proviso,



we like to see entire articles reprinted from our columns. We feel that it is a good thing for the *Journal*, for it not only calls readers' attention to it, but goes to show that the *Journal* would not be thus drawn upon if it did not contain matter thought to be worth reproducing, and the more a journal is quoted the more such matter it may be held to contain, and the likelier is a person who is not at the time a subscriber to it to become one.

## MINOR PARAGRAPHS.

### BOOKS AS VEHICLES OF INFECTION.

CAZAL and Catrin (*Annales de l'Institut Pasteur*, ix, 12; *Centralblatt für innere Medizin*, December 12, 1896) have investigated from the bacteriological standpoint the question of how far books are capable of conveying disease. A book from a hospital circulating library was found to contain a number of saprophytes and in addition a few pathogenic germs, staphylococci and the *Bacillus subtilis*. Even a new book, fresh from the publisher, was not sterile, but showed only harmless bacteria. The authors infected several books with known pathogenic species, and a few days later implanted bits of the leaves in culture media. The streptococcus, the pneumococcus, and the diphtheria bacillus were thus found to be communicable by books, but the typhoid organism and the tubercle bacillus gave negative results.

### A NEW ANIMALCULE FOUND IN ASCITIC FLUID.

DR. E. VON LEYDEN and Dr. F. Schandinn (*Sitzungsbericht der königlicher preussische Akademie der Wissenschaften zu Berlin*, July 30, 1896; *Centralblatt für innere Medizin*, November 14, 1896) have discovered in ascitic fluid from the living human subject an amoeba-like rhizopod to which Schandinn has given the name *Leydenia gemmipara*. It was found in two patients, one of whom was a young woman with aortic insufficiency, and the other a man with cancer of the stomach.

### THE BUBONIC PLAGUE IN LONDON.

THERE has recently been something of a panic in London on account of the arrival of a ship in port with the Chinese plague on board. It was of short duration, however, for the sanitary officials, acting according to the enlightened methods that now prevail, did all that was called for and public alarm was at once at an end.

### ITEMS.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 22, 1896:

DISEASES.	Week ending Dec. 15.		Week ending Dec. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever.....	23	9	20	2
Scarlet fever.....	145	10	140	3
Cerebrospinal meningitis....	0	0	2	2
Menses.....	123	6	166	8
Diphtheria.....	295	35	262	36
Tuberculosis.....	89	83	139	109

**The American Physiological Society.**—The ninth annual meeting will be held in Boston, on December 29th and 30th. The provisional programme includes the following titles:

Studies in the Physiology of the Mammalian Heart, by Dr. W. T. Porter; On the Duration of Cardiac Standstill with Different Strengths of Vagus Stimulation, by Dr. T. Hough; Some Experiments on the Relation of the Inhibitory to the Accelerator Nerves of the Heart, by Dr. R. Hunt; The Exhibition of Plethysmographic Curves obtained during Sleep, with Remarks, by Dr. W. H. Howell; The Relation between Height, Weight, and Age in Growing Children, by Dr. H. P. Bowditch; An Experiment on Telegony, by Dr. C. S. Minot; On the Contraction of the Stomach produced by Direct Stimulation and by Stimulation of the Vagi with the Faradaic Current, by Dr. S. J. Meltzer; An Experimental Investigation of Some of the Conditions influencing the Secretion and Composition of Bile, by Dr. F. Pfaff; The Production of Sugar from Gelatin in Metabolism, by Dr. G. Lusk; Demonstration of a Method for the Isolation of the Mammalian Heart, by Dr. W. T. Porter; Demonstration of the Reaction of the Stomach to Faradaic Stimulation, by Dr. S. J. Meltzer; Demonstration of a Convenient Form of Apparatus to Avoid Explosions in Gas Analysis, by Dr. G. T. Kemp; The Structure of the Sympathetic Ganglia of Vertebrates with Demonstration of Preparations, Remarks on the Ending of Nerves in Muscle Tissue, with Demonstrations, by Dr. G. C. Huber; The Functional Development of the Cerebral Cortex in Different Groups of Animals, by Dr. W. Mills; The Restoration of Co-ordinate Power after Nerve Crossing, by Dr. R. H. Cunningham; The Proteolytic Action of Papan, by Professor R. H. Chittenden; Experiments on the Physiological Influence of Alcohol, by Dr. C. F. Hodge; The Physiological Action of Nitrous Oxide, by Dr. G. T. Kemp; On the Bactericidal Effects of Lymph from the Thoracic Duct, by Dr. S. J. Meltzer. Demonstrations of apparatus will be given as follows: A spring cylinder chronograph for spark records; a lever system to illustrate the action of muscles in relation to joints; a form of student's myograph; a modification of the location reaction apparatus, by Dr. G. W. Fitz; and preparations of the nerve cell under acute alcoholic poisoning, by Dr. C. F. Hodge.

**The Late Dr. Déclat.**—A respected contributor sends us the following for publication:

"The death, recently announced, of Dr. Déclat at his villa at Nice, France, is a great loss to science, as to him justly belongs the honor of having created the antiseptic methods of treatment now universally employed. In 1861, at the Hôpital St.-Jean de Dieu, Paris, he made the first phenated applications and dressings, and in 1863 the first phenated hypodermic injections, publishing his treatise on the use of phenic acid in 1865, that has passed through four editions. It was not till 1868 that Lister employed phenated dressings and spray in surgery. In the words of the *Paris Figaro*: 'It is to Dr. Déclat that the world owes the antiseptic method in medicine and surgery. The number of lives saved thereby is incalculable, but some idea of its greatness may be formed from the statement that in the maternity hospitals of France the mortality from puerperal fever has fallen since the introduction of the antiseptic system from twenty-five to thirty in the hundred to five or six in the thousand. Dr. Déclat was a skillful practitioner, an accomplished gentleman, and a true friend. The honor withheld during his lifetime, on account of enmities unfortunately excited, will now doubtless be paid to Déclat dead.' It will be recollected that he visited this country in 1881 on the occasion of the presentation by the French nation of the Bartholdi Statue of Liberty. He crossed the continent, and was well received at various medical centres from New York to San Francisco."

**The Albany Medical College Alumni Association of Greater New York.**—At the annual meeting, held on December 17th, the following-named gentlemen were elected officers for the ensuing year: Dr. William H. Thomson, president; Dr. Reuben B. Burton, vice-president; Dr. Warren C. Spalding, secretary; Dr. Henry S. Brooks, assistant secretary; Dr. Edward F. Quinlan, treasurer; and Dr. William Stevens (for two years), Dr. Frederic Loughran



(for two years), Dr. H. C. F. Muller, of Brooklyn (for one year), and Dr. L. N. Lauchars, of Hempstead (for one year), governors. The annual banquet will be held on Thursday, January 21st.

**The New York Celtic Medical Society.**—At the last regular meeting, on Wednesday, December 23d, the order for the evening was as follows: A paper entitled *Diatheasis and its Influence on the Respiratory Canal*, by Dr. D. T. McDonald; scientific communications; exhibition of instruments and specimens; and presentation of cases.

**The Buffalo Academy of Medicine.**—At the last regular meeting, on Tuesday, December 22d, the order for the evening included the following papers: *The Ætiology and Pathology of Uterine Displacements*, by Dr. M. A. Crockett; and *The Diagnosis and Treatment of Uterine Displacements*, by Dr. Stephen Y. Howell.

**The Brooklyn Medical Society.**—At the last regular meeting, on Friday, December 18th, the order for the evening was as follows: *Some Remarks on Genu Valgum and its Treatment*, by Dr. Edwin A. Hatch; *Eye Strain*, by Dr. James W. Ingalls; and a demonstration of the bacillus of the Chinese plague, by Dr. Ezra H. Wilson.

**The Richmond Academy of Medicine and Surgery.**—At the last regular meeting, on Tuesday evening, the 22d inst., a discussion on Stone in the Kidney was to be opened by Dr. Charles R. Robins.

**The French Hospital.**—Dr. W. Whitehead Gilfillan has been appointed ophthalmologist to the hospital.

**Change of Address.**—Dr. Carroll E. Edson, from Boston to the McPhee Building, corner of Seventeenth and Glenarm Streets, Denver.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 19, 1896:*

BALDWIN, L. B., Surgeon. Detached from the U. S. Steamer Newark and ordered to the U. S. Steamer Puritan.

EVANS, S. G., Passed Assistant Surgeon. Detached from the U. S. Steamer Pinta, on reporting of his relief, and ordered to the Naval Hospital, New York.

ROTHGANGER, G., Passed Assistant Surgeon. Detached from the U. S. Steamer Patterson and ordered to the U. S. Steamer Pinta.

#### Society Meetings for the Coming Week:

MONDAY, December 28th: Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Maine Academy of Medicine and Science (Portland); Baltimore Medical Association.

TUESDAY, December 29th: Boston Society of Medical Sciences (private).

WEDNESDAY, December 30th: Auburn, N. Y., City Medical Association; Berkshire, Massachusetts, District Medical Society (Pittsfield).

FRIDAY, January 1st: Practitioners' Society of New York (private); Baltimore Clinical Society.

SATURDAY, January 2d: Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

CARLEY—KING.—In Brooklyn, on Tuesday, December 15th, Dr. William R. A. Carley and Miss Emily Amanda King.

HAWXHURST—BENTON.—In Brooklyn, on Thursday, December 17th, Dr. Henry Dawson Hawxhurst and Miss May Ethel Benton, daughter of Dr. Stuart H. Benton.

HOLSTON—CONKLIN.—In Mount Morris, N. Y., on Wednesday, December 16th, Dr. J. D. Holston, of Amos, West Virginia, and Miss Harriet E. Conklin.

KING—BARRINGER.—In Florence, South Carolina, on Tuesday, December 22d, Dr. Claude Evans King, of Mayesville, South Carolina, and Miss Mary Augusta Barringer.

RATCLIFF—CHANDLER.—In Mico, Mississippi, on Monday, December 14th, Dr. H. F. Ratcliff and Miss Docie Chandler.

#### Died.

JONES.—In Leavenworth, Kansas, on Wednesday, December 16th, Dr. Selden W. Jones.

SEARS.—In Birmingham, Alabama, on Sunday, December 13th, Dr. J. W. Sears, aged sixty-seven years.

### Proceedings of Societies.

#### SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Ninth Annual Meeting, held in Nashville, on Tuesday, Wednesday, and Thursday, November 10, 11, and 12, 1896.*

The President, Dr. E. S. LEWIS, of New Orleans, in the Chair.

**Vaginal versus Abdominal Section for Pus in the Pelvis.**—Dr. W. D. HAGGARD, Jr., of Nashville, recounted the transitional periods in the treatment of pus in the pelvis—vaginal puncture superseded by abdominal section and removal of pyosalpinx, and removal of the uterus and its annexa *per vaginam* by the French and through the abdomen by the American school. These operations had given way to modern vaginal section and evacuation and drainage of all pus pockets. The abdominal route afforded visual inspection of the field. The attack on morbid masses could be made with safety to visceral integrity. If pus accumulations were multiple, rupture and peritoneal soiling were inevitable; that was the supreme disadvantage of abdominal incision. The author had often seen the pelvis deluged with pus with impunity. He had also seen patients die within twelve hours from fulminant sepsis from peritoneal contamination. He referred to a mortality of 18.5 per cent. in a series of collected cases of laparotomy for pus, done in five metropolitan hospitals in the last year, and asked what it must be in the "unheard-from precincts." The abdominal method offered the best approach in tuberculous inflammation of the ovaries and tubes and in cases of small unilateral pyosalpinx. The author referred to the advantages of exploring the pelvis for retro-uterine tumors and the annexa by vaginal section.

The situation of pus in the pelvis in most cases made vaginal incision extraperitoneal, a minor procedure giving major results. There was no shock, there was no risk, there was no disturbance in convalescence. In prolonged sepsis from large abscesses, posterior section and drainage were life-saving procedures. The special indications were: 1. Early cases of acute suppurating salpingitis. 2. Incipient post-puerperal peritonitis. 3. Large pyosalpinx and true pelvic abscess. The first group included early gonorrhœal and abortion cases. In puerperal cases, incipient peritonitis and puddles of pus in Douglas's

### Births, Marriages, and Deaths.

#### Married.

BAILEY—WOODEN.—In Brooklyn, on Thursday, December 17th, Dr. Frederick Randolph Bailey, of Elizabeth, N. J., and Miss Minnie Josephine Wooden.

space imperatively demanded incision. Should simple pus-letting in any of these cases not effect a cure, a subsequent operation for the removal of relics of previous ravages could be done without the dangers incurred in the presence of pus. The field of vaginal section was to prevent suppuration in early cases, to anticipate it in puerperal cases, and to save life in desperate cases. Its application to the pelvic inflammatory processes and to pus in the pelvis was one of the greatest surgical triumphs of the age.

Dr. JOSEPH TABER JOHNSON, of Washington, said that, while the vaginal method had a great many points in its favor and was being resorted to more and more in cases of large pus collections in the pelvis, yet those who had been familiar for a considerable time with the abdominal route could operate more conveniently and dexterously by this method and with greater safety to the patient than by the vaginal. He could not agree with the speaker that the vaginal operation might be done without any risk to the patient. Sometimes in operating through the vagina for the purpose of removing the uterus and its annexa, or for large pus collections high in the pelvis, where it was necessary to manipulate the parts a good deal and to do a thorough enucleation, the surgeon was likely to tear the intestine, the bladder, the ureter, or a large vessel which was out of sight. In such cases the abdominal was much safer than the vaginal route.

Dr. CHARLES P. NOBLE, of Philadelphia, did not feel that either the abdominal or the vaginal method possessed all the advantages, but if restricted to one or the other he should prefer the abdominal rather than the vaginal route. An objection formerly urged against the abdominal route was the large percentage of hernias which followed this method. Only a week since he had tabulated the operations he had done for four years, which amounted to 397 abdominal cases, in which he had used the buried suture in closing the abdominal wound. Of this number the wounds had suppurated in seven cases, while in 390 they had healed by primary union. Among the seven patients in whom suppuration had occurred, one had had a hernia. There had been a large umbilical hernia in one of the 390 cases. Aside from these two cases, he had not had any hernias in his operative work for the last four years where the buried suture had been used. If the patient was in a condition to permit the surgeon to do ideal work, he thought the question of hernia was such an insignificant one that it might be left out of consideration.

Dr. HOWARD A. KELLY, of Baltimore, said that, whenever possible, pus in the pelvis should be treated by vaginal puncture or section posterior to the cervix, without sacrificing any of the uterine appendages. A large percentage of the patients thus treated would have no further discomforts. Illustrative cases were cited. One of the principal arguments advanced by advocates of the vaginal route in removing the uterus, the tubes, and the ovaries was the excellent drainage that could be secured by this method. In Dr. Kelly's opinion it was unnecessary to take out the uterus to get drainage.

Dr. L. S. McMURTRY, of Louisville, said that a deep impression had been made upon the profession in the last two years by the vaginal method of operating for pus in the pelvis. This procedure, however, was by no means a new one. Battley, in his original operations upon the ovaries, had attacked the pelvic organs through the vault of the vagina. The method of attacking accumulations of pus in the pelvis by vaginal puncture

and drainage had been the universal practice of abdominal surgeons for a long time. The sacrifice of the uterus in the majority of cases of suppurative pelvic inflammation was unnecessary. Surgery should be confined within the limits of removing only such diseased tissue or organs as it was necessary to remove for the complete cure and restoration of the patient.

Dr. J. WESLEY BOVEE, of Washington, objected to anterior colpotomy in dealing with pus cases unless the accumulation of pus was on top and in front of the bladder. He thought that in these cases drainage through the anterior vaginal route could not be done, and the pus could not be reached in many cases. He believed it was not necessary to remove the uterus at the same time the tubes were taken out. He did not want to be understood as being opposed to the vaginal route in very urgent cases.

Dr. R. B. MAURY, of Memphis, had during the last two years thoroughly studied the subject of vaginal hysterectomy, as he had done quite a number of these operations without any mortality, any accident, or unpleasant result. But he would not undertake to say that we ought to substitute it for laparotomy. Both abdominal and vaginal hysterectomy were operative measures that surgeons must avail themselves of according to the circumstances of the case. Dr. Maury cited the histories of two patients that he had treated within the last thirty days, which beautifully illustrated the advantages of the two methods.

Dr. W. E. B. DAVIS, of Birmingham, Alabama, said the practice of incising pelvic abscesses was so old that it hardly required discussion, but the method of attacking pyosalpinx by vaginal section was comparatively recent. Unquestionably vaginal incision for pus confined to the tubes and ovaries would save these important organs in a good proportion of cases. In all cases of large pus collections in the pelvis nothing should be done more than to incise the abscess and drain, and then later on the surgeon should be prepared to do an abdominal section, if necessary, but he thought the surgeon would rarely have occasion to do this. Total ablation of the uterus and its annexa was unnecessary in many of the instances in which it was practised by some surgeons.

**Cholelithiasis.**—A paper on this subject was contributed by Dr. A. M. CARTLEDGE, of Louisville, in which the author reported several interesting cases. He dwelt upon cholecystostomy and cholecystenterostomy, pointing out the indications for each operation. He considered cholecystostomy the only operation that was applicable in the cases cited. In his opinion there were no cases that primarily demanded cholecystenterostomy.

Dr. JAMES McFADDEN GASTON, of Atlanta, agreed with the speaker that, in ordinary cases of gallstones in the gall bladder, with obstruction of the cystic duct, the simplest procedure was to lay open the abdominal wall, attach the gall bladder to the incision, and remove the gallstones. But in a large proportion of cases of complete obstruction he doubted whether there would be restoration of the flow of bile through the cystic duct into the gall bladder. With reference to the comparative value of cholecystostomy and cholecystenterostomy, the two operations were applicable to entirely different conditions. No one would operate and expect benefit from a cholecystostomy except to establish drainage for the bile in a case of permanent occlusion of the common duct, and this was the only condition in which the advocates of cholecystenterostomy had ever alleged anything for it.



Dr. JOHN D. S. DAVIS, of Birmingham, Alabama, emphasized the point that patients frequently had gallstones without the manifestation of symptoms, particularly the symptom jaundice. He did not believe that it was ever wise to resort to cholecystenterostomy as a primary procedure. The surgeon should first resort to drainage, and then, if relaxation did not take place and the flow of bile was not effected, cholecystenterostomy should be done.

Dr. GEORGE BEN JOHNSTON, of Richmond, Virginia, spoke of the diagnosis of gallstones. He was convinced that if examinations of suspected cases of gallstones were as careful and minute as they should be, surgeons would frequently find them. It had been his experience that enlargement of the gall bladder did not always occur where a gallstone existed, but that a condition which simulated enlargement of the gall bladder frequently did exist, this condition being due to the presence of numerous dense adhesions found in the neighborhood of the gall bladder, gluing it to every tissue with which it came in contact. One thing which struck him as very singular in connection with the presence of gallstones was that the size of the stone or stones seemed to make no difference in the production of symptoms. In regard to hæmorrhage, it was generally admitted that cases in which cholæmia was profound were the ones in which we were to expect hæmorrhage, and by no known method could this hæmorrhage be successfully controlled. The cholæmic condition seemed to invite a fatal hæmorrhage. The experience of operators in this field of surgery was that when cholæmia was profound hæmorrhage of a fatal character was to be expected. He considered cholecystostomy a proper procedure in all cases, except those where the obstruction was in the common duct and could not be relieved.

Dr. W. E. B. DAVIS said that surgery of the gall bladder for the removal of gallstones had given brilliant results, but there were still questions in regard to operative procedures on the ducts that were not as yet definitely settled. He did not believe the speaker referred to cholecystostomy as being the operation of choice in cases where the obstruction of the duct could not be removed, but he must have had in mind the procedure advocated by Murphy, of resorting to this operation in a case of gallstone in the gall bladder where there was no obstruction in the duct. Murphy had resorted to cholecystenterostomy instead of cholecystotomy, and he thought that Dr. Johnston did not intend to convey the idea that he would not do cholecystenterostomy where the obstruction in the duct could not be removed. Cholæmic cases were had to operate in. Perhaps in not more than five or six per cent. of the cases was the obstruction found in the common duct. Some years ago the speaker had made experiments which conclusively showed that the surgeon could incise the duct and drain with gauze without peritonitis following. A paper on this subject had been read by him before the American Medical Association in 1892, since which time he had done further experimental work in which sutures had not been used after the stone had been removed from the duct, and, while several of the patients had very nearly died from profound cholæmia, and eventually did die, yet in the cases in which this method had been resorted to the abdominal cavity had been walled off and peritonitis had not resulted.

Dr. GEORGE A. BAXTER, of Chattanooga, directed attention to the frequency of gallstones unattended with the ordinary symptom of colic, and cited an illustrative

case in which there had been found post mortem three large stones in the gall bladder.

Dr. F. W. McCRAE, of Atlanta, reported a case in which there had been repeated attacks of colic with profound cholæmia. An operation had been undertaken with the idea that the obstruction had been in the common duct, and that there had been stones in the gall bladder. When the abdomen had been opened in the presence of several physicians the liver had been found to be much enlarged and reaching almost to the umbilicus. Instead of finding the gall bladder enlarged, he had found a fibrous cord not larger than his index finger. The common duct, from disuse, had been reduced to a mere cord. A calculus had been found in the hepatic duct which extended up into the transverse fissure of the liver. He had not known what to do in this case, and, after consultation with his colleagues, he had closed the abdomen. The patient had died five days later from exhaustion. If anything could be done for such patients he would like to know it.

#### Mental Complications following Surgical Operations.

—Dr. JOHN T. WILSON, of Sherman, Texas, said that the subject of mental disorders produced by or following surgical operations had not been discussed to any great extent, and until within the past two years only a passing notice had been given to it. It was a strange fact that, while surgical operations would sometimes cause serious mental disturbance, on the other hand those same operations would sometimes cure it; especially was this the case with some melancholics. Many women who labored under attacks of melancholia caused by some disease of the genital apparatus had been cured when relieved of the physical defect by operation; others had been much improved, and yet some had received no benefit. The question might very properly be asked, why a surgical operation should produce an attack of insanity. This could no more be answered in every case satisfactorily than the question of why some persons became insane from the many other causes to which it was attributed, for in most cases the mental complications were a surprise and no good reason could be given why they should follow. In others, however, a logical explanation might be had. If the patient was a high-strung, nervous individual, easily excited, and unable to bear pain, the great and increasing dread of the anæsthetic, the operation, or both would so affect him that he would lose control of the will power and the explosion would come after the operation and reaction from the anæsthetic. In many of these cases, probably a majority, there was an hereditary taint or a strong neurotic tendency.

The author quoted Mairé, who thought that it was in those individuals who were predisposed by heredity or other grave causes—alcoholism, infectious diseases, etc.—that surgical operations gave rise to insanity. In the constituent elements of an operation which might act on the brain the two most important ones were the anæsthetic and the degree of surgical traumatism with its after-effects, of which disturbed nutrition played a very important part. When the predisposition also was considerable the anæsthetic alone might produce insanity, or it might result even after minor operations. It was, of course, necessary to take into consideration the mental state of the patient prior to the operation, especially in those graver cases where questions of life or death were frequently involved.

Dr. E. S. LEWIS, of New Orleans, related the case of a woman, forty years of age, who had been very hysterical,



upon whom he had operated for laceration of the perineum. She had manifested no evidences of insanity prior to operative interference, but during her convalescence the hysterical manifestations had increased and had been associated with delusions. Her condition had become so serious that on different occasions she had threatened to commit suicide. She had been transferred to an insane asylum, and after a thorough examination by the physician in charge an unfavorable prognosis had been given. Investigation of the family history had shown traces of insanity.

In another case, that of a woman sixty years of age, he had removed a very large adherent ovarian tumor, and the operation had been attended with considerable shock. For a few days subsequently the patient had done well, but then she had become perfectly insane. These were the only two cases he vividly remembered, although he had seen cases of temporary insanity after operations, which had passed off in the course of a few months.

Dr. W. E. PARKER, of New Orleans, had seen two or three cases of insanity in men following surgical operations, but had never been able to trace any history of the disease in the family. The insanity had occurred in alcoholics. Two of the men had been addicted to either cocaine or morphine. In the management of such cases the use of the particular drug to which the patient was addicted should still be continued in very small doses, and cut off gradually, for the reason that great prostration often followed the sudden interdiction of a habit that had been continued for many years.

Dr. R. B. RHETT, of Charleston, had met with three cases of post-operative mental aberration, two of which had occurred in old women after removal of the breast for cancer. The third case had occurred in a young woman who had had puerperal insanity prior to the operation. In two cases the insanity had lasted for three days, in the other for three weeks.

Dr. CARTLEDGE said that the question of post-operative insanity led us to discriminate as to the probable etiology in many of the cases. He thought the author of the paper had had it in mind to deal with those cases of post-operative insanity that were functional in character, rather than those in which there was suffering from the mental impression produced by the operation in general. He was quite sure that most of the cases, except those characterized by hereditary tendencies and traits, could be traced to some organic lesions. The history of the case should always be thoroughly investigated. He had encountered what he considered pure post-operative insanity in only two cases.

Dr. JOHN D. S. DAVIS considered the subject of interest from a medico-legal standpoint. No surgeon was absolutely free from such mental complications occurring in his operative work. He had encountered four cases. In a young man there had been no history of insanity, but an analysis of the urine had shown a great many casts and a slight trace of albumin before the operation. Operative interference had been followed by acute mania which had lasted seven days, then disappeared, and the patient had recovered. He expressed a desire that Dr. Wilson would, in closing, touch upon the responsibility of the surgeon in this class of cases.

Dr. JOSEPH TABER JOHNSON said that in talking with Dr. Kelly and Dr. Noble he learned that the latter had met with eight cases of insanity following perineal operations. He asked Dr. Wilson to state whether opera-

tions upon the perineum were more frequently followed by insanity than others.

Dr. WILSON said he had seen a number of cases of various forms of insanity following surgical operations, but did not think the disease occurred more frequently after perineal operations and operations upon the genitalia than after those upon any other part of the body. In reply to Dr. Davis's question, he did not think the physician was any more responsible for the death of a patient from insanity following an operation than he was for death from any other cause following any operation. He had never heard of a suit for malpractice having been brought against a practitioner for the occurrence of mental derangement from a surgical operation.

## SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

*Meeting of October 14, 1896.*

The President, Dr. R. C. NEWTON, in the Chair.

*(Continued from page 724.)*

**The Early Recognition of Uterine Cancer, with some Remarks on its Treatment.**—Dr. WALKER read a paper on this subject. (See page 834.)

Dr. GEORGE H. MALLETT said that every one appreciated the importance of early recognition of cancer, especially as the figures showed that the disease was on the increase. At the cancer hospital fully ninety per cent. that entered were past the operative stage, and the records showed that of the patients operated upon, the majority soon had a recurrence. The result of the operation would depend on the early recognition. He spoke of a theory advanced by Dr. Johnson, of Cincinnati, as to the causation of cancer—that the whole fault was in the trophic nerves; the nerve centres were out of gear, and failed to furnish the necessary nutrition; that the cancer growth was embryonic, and the cells had returned to that condition when the nerve supply was faulty; that in every case of cancer there had been some severe nerve strain, and he cited General Grant's as an instance. Of late years, heredity had been worked up a good deal. The speaker thought one of the most important early symptoms of cancer of the uterus was a slight flow of blood following coition. Last winter he had presented to the society a specimen of a carcinomatous uterus which he had removed, of which that had been the only symptom. The disease had now recurred and the woman would soon die. The uterus was affected much more frequently than any other organ in women, and more frequently in married women and those who had had a great many children. Carcinoma of the cervix was easy to recognize. An "operable" case was one in which neither the bladder, corpus uteri, nor vagina was involved, and the uterus not fixed. Irregular hemorrhage, a watery discharge, and pain were the usual symptoms, but the pain did not occur until too late. In most of these cases there was a lacerated cervix, and it had been proposed that every family physician should examine a patient two or three months after he had delivered her, and if there was a lacerated cervix have it operated on. Women who had cancer in their families should be carefully watched. Where there was any suspicion, he thought the only safe way was to excise a small portion and submit it to a pathologist.

Dr. NEWMAN spoke of three cases in which slight

hæmorrhage had followed coition, and, on microscopic examinations, a diagnosis of cancer had been made. He spoke of two cases sent to the hospital, one of which had been sent there for carcinoma, and had proved to be a bilateral laceration, and the other, diagnosed as bilateral laceration and infiltration of the broad ligament of the left side, which had proved on examination to be cancer, showing that the general practitioner often failed to recognize symptoms of cancer and simple pathological conditions of the cervix.

Dr. CORWIN spoke of a case that he had examined, illustrating that women did not always apply until the disease was too far advanced to permit removal. This woman had come to him stating that she had had slight pains for three or four weeks about the womb, with moderate hæmorrhage; she was about fifty years of age, in robust health, of an excellent color, and of good vitality. Examination had shown that she had cancerous trouble, affecting not only the cervix of the uterus, but also the anterior vaginal wall, and that it was beyond surgical aid. The symptoms calling for medical aid had been slight pains about her pelvis. She had rather suspected some disease, as her duties as matron of a hospital had made her suspicious.

Dr. RUPP said he would like to put two questions to the gynecologists present concerning operative procedures: First, in view of the fact that every woman who had given birth to a child had more or less laceration of the cervix, should such women be operated upon on that account in order to head off cancer of the womb? Second, those of us who did not operate, but whose opinion was asked concerning the comparative merits of operations, what were we to say as to cutting *versus* cauterizing operations? The results from Byrne's method seemed remarkable and encouraging.

Dr. WELLS said that in connection with the slight spotting after coitus, there was another symptom—viz., morbidly increased sexual appetite—and he spoke of a case that he had seen two weeks ago where there had been this symptom. The woman had been of rather spare build, and had been feeling a little below par; there had been no hæmorrhage, but a little spotting after coitus, and on examination the speaker had found a carcinoma. He spoke of statistics on cancer published by Roger Williams, of England, showing that in 1840 the mortality from cancer had been one in one hundred and twenty-nine; in 1894 the proportion had increased to one in twenty-three. He thought this enormous increase had been in part due to more careful diagnosis and more care in the registering of deaths. Roger Williams thought cancer was more frequent in luxurious countries, where a large amount of meat was consumed, than in countries where people lived a simple life. As to heredity, he knew of a family where, for five generations, from two to five members of the family had died of cancer—that was, in every generation the major part of the members had died from cancer.

Dr. RUPP asked if food had had anything to do with it in that case.

Dr. WELLS stated that the family had been well off, and had had enough to eat; he did not say that this proved carcinoma to be hereditary, but it was a remarkable instance.

Dr. YEATMAN WARDLAW said, in reference to Dr. Byrne's method, he thought the important thing in an operation was the entire extraction of the diseased parts, and he did not believe in the cauterizing method, which could not extend into the ovaries and tubes, or

along the lymphatics. He spoke of a case that he had seen where the uterus had been extracted, but, owing to a defect in the operation, the left ovary had been left in place. Three years after the disease had appeared exactly in the site of the left ovary. There had been no laceration of the cervix. The patient had had a number of abortions, but the cancer had been a superficial epithelioma. He spoke of a case that he had seen in which the patient had been to several physicians before she had come to him. The cancer had advanced too far to be operated on. Since that time she had had several physicians, and all but one of them had said that her disease was not cancer. She had died recently, and he had been told that the physician attending her had said she had "stomach complaint" which had "ruptured the bowels." This case, which had presented a typical clinical picture of uterine carcinoma, had been verified by a microscopic examination by one of our best-known pathologists, and was evidence that some physicians were at least careless in their observations.

Dr. WELLS agreed with the previous speaker that the operation by the cautery ought to be condemned, except in "inoperable" cases. The best operations were those which removed the greatest amount of tissue, where not only the uterus was removed, but as many of the adjacent lymph nodes as possible.

Dr. E. PIERRE MALLETT thought that some credit should be given to Dr. Byrne for his work in this line. The operation was not only the amputation by the cautery knife of the diseased or suspected tissue, but also a cooking or dry roasting of the adjoining tissues. In cutting with the knife, all of the lymphatic channels were opened, and carcinomatous cells could penetrate into adjacent structures, whereas in this operation the influence of the heat extended considerably beyond the limits of the incision and destroyed these cells, so that even if it was not possible to remove and destroy all of the diseased tissue, the patient was at least given a period of immunity from recurrence which no other record could show. Dr. Byrne reported cases (forty recoveries out of sixty-five) in which the patients had been free from recurrence from two to twenty-two years, or an average of nine years for each, while Dr. Polk reported fifty cases treated by complete hysterectomy, of which he said "every one relapsed within two years," and Dr. Mundé twenty-five cases, of which he said "invariable recurrence within six to nine months." He did not think one should condemn an operation which evidently was not thoroughly understood and had not been seen. Dr. Byrne's work in this direction had not received due recognition.

Dr. NEWMAN spoke of seeing a patient two years ago operated on by Dr. Byrne. The patient at the present time was entirely well.

Dr. GEORGE H. MALLETT said that, so far as statistics went, Dr. Byrne's method seemed to have the advantage over hysterectomy. He had absolutely no mortality with his operations; he had done from sixty to eighty operations without any shock or any bad symptoms whatever, and he had had patients who had been free from the disease from nine to twenty-one years; whereas, taking the operations of eighty-four physicians in New York, the average time of recurrence was two years, and a case in which the speaker operated lately had recurred in six weeks.

The PRESIDENT thought these results were too good to be true. Speaking of the conservatism of the English, some of their writers thought it was better to leave



cancer of the uterus alone, and also cancer of the breast; and stated what seemed to us rather strange, that removals of both organs had done more harm than good in the long run. At least, Sir Benjamin Brodie was reported to have said, after he had removed five hundred cancerous breasts, that he would never remove another without telling the patient that the operation would probably not prolong her life.

Dr. WALKER thought that the object was removal of diseased tissue, and did not see how cauterizing was any better than the knife. He thought the case reported by a previous speaker, where the ovary had been left, showed that complete extirpation would have been the better method.

The PRESIDENT thought it was not always easy to make the diagnosis, as there might be irregular hemorrhages and all the symptoms that had been mentioned in cases that were not cancer. He spoke of a case of enlarged tonsil he had treated lately. He had advised having the growth removed, but the patient would not consent. Then he had sent him to Dr. Delavan, who had advised putting him on the use of iodine for a week, and then having him examined again, as Dr. Delavan had strongly suspected a sarcoma or epithelioma. At the end of a week Dr. Delavan had removed part of the growth and had submitted it to Dr. Hodenpyl, who had pronounced it very difficult to diagnose the disease; there had been some indications of sarcoma, while in other places there had been areas of dense fibrous tissue which had suggested the possibility of tuberculosis or syphilis, but he did not find the typical bacilli of the latter disease. He had also noted certain appearances which had led him to suspect actinomycosis. He had concluded that it was probably a case of chronic hyperplasia of the tonsil. A few hours later Dr. Hodenpyl had sent a note stating that he had submitted the specimens to Dr. Prudden, who had thought there were indications of sarcoma. If the tonsil began to grow, that would settle the diagnosis. If, then, there was so much doubt in the minds of these excellent microscopists as to the true diagnosis in this apparently not difficult case, it was certain that in many cases of incipient carcinoma uteri the microscopist would be unable to settle the diagnosis.

Dr. WALKER said that the point he had wished to make in his paper was, that when a patient consulted a physician with symptoms which aroused his suspicion, he should sift the matter as far as possible, and after an examination, if he found anything suspicious, he should get specimens from the cervix or uterus and have a microscopical examination made. With reference to Dr. Byrne's method, he thought it was merely a question of removing the tissue; he did not see how the cautery would penetrate farther than the knife. He had no objection to any method that could remove sufficient tissue, and thought that best which did this in the safest way. As to laceration of the cervix, he thought one sometimes found a suspicious appearance about the cervix without any other symptoms that would lead one to suspect cancer. One should watch all suspicious cases very closely. The large increase in the death-rate from cancer was probably due to the fact that at the present time a more correct diagnosis was made. He asked how many deaths would be found occurring in 1870, for instance, from perityphlitis, and yet there must have been many cases of perityphlitis at that time, but they were not recognized.

## Miscellany.

**The Subcutaneous Employment of Sterilized Salt Water in Intestinal Affections of Nurslings.**—The *Presse médicale* for November 28th publishes a report of a recent meeting of the Société médicale des hôpitaux at which M. Barbier and M. Derooyer gave an account of some experiments they had made with this artificial serum in order to establish especially the modifications of the temperature and of the pulse. The serum which they employed was composed of a seven-per-cent. [seven-per-mille?] solution of salt water. The injections were made under the skin of the lateral region of the abdomen. The doses employed were somewhat varied, but never exceeded thirty cubic centimetres in twenty-four hours—that is, fifteen cubic centimetres in the morning and fifteen at night. The physiological effects were as follows:

Elevation of the temperature was observed to be almost constant, with some variations; this constituted, with the acceleration of the pulse, one of the normal symptoms which occurred in the period following the injections which the authors called the "time of reaction." This elevation of temperature varied from two tenths to eight tenths of a degree centigrade for each injection. It was appreciable half an hour after the injection, much more distinct after two hours, and perceptible almost in the same proportion three hours after, although often the deviation observed three hours afterward would be the same or inferior to that observed two hours afterward. This seemed to indicate that the period of "ascending reaction" did not go beyond the third hour after the injection. Five hours after the injection, in fact, the temperature often varied and was sometimes lower than that of the third hour. From this moment the temperature tended to become lower again. In fact, seven hours afterward, at the moment when the second daily injection was practised, the temperature chart showed a constant fall. In certain patients who probably presented more symptoms of poisoning the period of reaction was shorter, and in them the authors had employed three injections a day instead of two.

The thermic reaction was not observed with the same distinctness in all the patients. In those who were not very much poisoned the reaction was the most distinct; on the contrary, when death was imminent or the children were in a state of collapse, the reaction was much less appreciable. It might be, perhaps, said the authors, the ground for an immediate unfavorable prognosis if the reaction was insufficient or there was none at all, and an indication for repeating the number of injections. The reaction of the temperature which was observed, whatever might be its condition at the moment of injection, was as follows: Hypothermia, normal temperature, and hyperthermia.

The modifications of the pulse were parallel to those of the temperature. They consisted in an acceleration of the cardiac pulsations, which became at the same time fuller and stronger. This acceleration averaged about twenty pulsations.

The modifications of the general condition seemed to result from the stimulation of the entire organism by the injections, and in particular from the elevation of the blood pressure and of the temperature. The patients who were in a state of collapse, with cold extremities, seemed to come out of this condition: the ocular reflexes reappeared, the face resumed its natural color, and the



extremities became warm, all of which indicated a greater activity of the peripheral circulation.

The authors believed that these injections were indicated in the following circumstances: 1. In acute infectious enteritis with hypothermia, which did not expressly indicate, in consequence of an excessive diarrhoea, large injections of salt water. 2. In chronic enteritis which presented the same characteristics of hypothermia with progressive weakness. The authors thought that these injections were not indicated in the febrile forms, in which it did not seem called for to increase the elevation of the temperature or the acceleration of the pulse. But they were indicated when, during the course of a febrile diarrhoea, a period of hypothermia or collapse supervened.

These injections had no action at all on the diarrhoea itself or on the symptoms other than those of collapse, etc., due to the presence of toxic matters in the intestine. In regard to their action on the general nutrition, it was very doubtful if there was any at all. The authors noted in certain patients who were thin before the administration of the injections a stationary condition of the weight or even a slight increase.

**The "Trinity of Therapy."**—In the December number of the *International Journal of Surgery*, Dr. Thomas Osmond Summers remarks that if there is anything that distinctively marks the medical era which closes with the nineteenth century, it is the profound revolution in therapy. The former system, which was adopted from the natural tendency of the human mind to rest in experimental, yes, even empiric theory, based itself upon the direct action of remedial agents in disease without any reference to the action of such a remedy under the normal conditions of the organism. This system, recognized as the pathological system in contradistinction to the physiological method, necessarily called for an infinity of therapeutic agents, each one of which acted, or was supposed to act, independently of the others, to bring about a restoration to normal function and even structure.

As, however, bacteriological science has demonstrated the most wonderful principle of direct physiological antagonism to disease as its germs float through the blood current, thus proving the possibility of the organism to destroy its own enemies, modern therapeutics has lined its forces to support this grandest of all principles of resistance to disease in general.

There is, first, says Dr. Summers, a condition of the organism which is entirely dependent upon the support or sustenance of organic elements and conditions. To this are relegated entirely those remedial agents which are active in the support of such tissues as can receive nutriment only from a previously prepared substance. Second, there is a class of remedial agents that act by direct absorption, being distinctly elements of the organism as such, going in and passing out unchanged. This class represents the full power of inorganic therapy. They need no digestion; they require no physiological manipulation. They are arranged so as to be in perfect rapport with the functional activities of the organism and produce their effect *de novo*. Third, there are those agents which are distinctively absorbent in their character; they change the specific gravity of the blood and thus regulate its density or osmotic relation to nutrition and waste. How large a pathological field this covers will be readily discovered by the practical clinician.

Now, continues Dr. Summers, to meet these three great therapeutic principles, physiologists and chemists

have, for the past decade, bent their best efforts. It has been found, first, that there is a principle of peculiar power in the bean, which thoroughly supports the nerve and osseous organisms, while at the same time it sustains and stimulates the general cellular activity of the body. In all tropical countries this has long been known and therapeutically applied, although to this day they do not recognize the wide range of therapeutic power which this substance controls. The whole philosophy of its action lies in its vegetable albumin, and Dr. Victor Vaughan most certainly struck the keynote of vegetable therapy in using for his nuclein the yeast product which is so closely assimilated to the organism. Second, there are certain inorganic constituents, such as the phosphates, which enter the organism directly, perform their nutritive function, and pass out unchanged. Third, there are saline constituents of the organism, which resist the occurrence of excessive waste in the body. They regulate the amount of urea discharged or formed and control the balance of the waste and repair.

All of these principles have been met fully by the modern method of pharmaceutical science. The first in extraction of phaselin; the second in the chemical combination of rheumagon, and the third in the strong phosphatic product, the triumph of modern chemistry, to which, for some reason unknown, the name melachol has been given; but without doubt these are, says the author, the trinity of therapy.

This trinity of therapy is distinctively represented by the normal therapeutic agents which cover the physiological division of the organism. First, the fibro-areolar tissue, which is the groundwork of the organism upon which all of its structures are built. Second, the nerve tissue, which controls the distribution of nutrition and regulates the balance of function in the organism. Third, the digestive principles, which furnish the material for structure and the stimulus for function.

They are the necessary constituents or the proximate principles of the body, and without them it would starve, shrivel, decay, and die. As an example of this, says Dr. Summers, it is necessary only to refer to chloride of sodium, the deprivation of which would produce as certain death as a rifle ball through the heart. It is, therefore, the province of therapy to provide proper and assimilable combinations of those inorganic materials.

**The Treatment of Uræmia by Phlebotomy followed by Large Injections of Artificial Serum.**—In the *Union médicale* for December 5th M. H. Richardière says that the good results obtained by the method called lavage of the blood in the treatment of infections have led to the general employment of large injections of saline solutions or of serum, and their application in a rather large number of diseases.

These injections have been employed with success in the treatment of a certain number of toxic diseases. In uræmia, in which they are particularly indicated, it seemed at first that they could not be prescribed, because of the lesions of the kidneys and on account of their impermeability. It has been recognized since then, says the author, that the integrity of the kidneys is not an indispensable condition to the employment of lavage of the blood. Its efficacy in the treatment of uræmia is not, however, admitted by all authors. Lépine, in particular, states that he did not obtain recovery in several cases of uræmia in which large injections were employed.

Other authors, however, have been more successful. Sahli, who was the first to conceive the idea of employing lavage of the blood in uræmia, saved by this treat-

ment a patient who was in imminent danger of death. Bosc also recognized the good effects of subcutaneous injections of artificial serum in a case of uræmia due to parenchymatous nephritis. The patient recovered in four days.

M. Richiardié recently employed these injections in two cases of uræmia, one of which was very serious, and the results obtained were sufficiently favorable, he thinks, to justify the employment of this treatment.

A fact to be remembered, he says, in order to appreciate the treatment of uræmia by these injections is their perfect harmlessness. They are, of course, somewhat painful, but if they are administered aseptically they do not cause any local inflammation. The two patients referred to, in whom M. Richiardié tried the injections, had anasarca, but, although the injections were thrown into œdematous tissue, they did not cause any local symptoms.

The action of these injections is manifest on the temperature. In Bosc's patient the temperature rose a degree in an hour after the injection. In the first patient treated by the author the temperature also rose a degree during the day after the first injection; after the second injection it rose a little more than two degrees. In the second patient the rise in temperature was even more marked.

The pulse, which had been very rapid, became slower; the respiration, which had been irregular, of the Cheyne-Stokes type, became regular. The quantity of the urine passed during twenty-four hours increased notably.

Diarrhœa, says M. Richiardié, should be considered a favorable symptom in uræmia. It favors the elimination of the toxic matters which are the cause of the uræmic symptoms. It then constitutes an important element in the lavage of the blood.

The conclusions are: The elevation of the temperature, the diminution of the number of the pulsations, the regularization of respiration, the increase of diuresis, and diarrhœa are the important symptoms which follow the large injections of artificial serum in uræmia.

These symptoms are all favorable in connection with an intoxication. They fully justify the employment of the method called lavage of the blood, and explain the recoveries sometimes produced in cases which appeared to be hopeless.

**Senile Alterations of the Middle Ear.**—At a recent meeting of the Congrès international d'otologie, a report of which appears in the *Revue internationale de rhinologie, d'otologie et de laryngologie* for October, M. Ferreri stated that he had made investigations in order to determine if the deafness of old persons was due to a hyperplastic otitis media and its consequences, or rather to a process of involution. He examined two hundred and one old persons, nearly all of whom were over sixty years of age. He cited the opinions of Haller, Burdach, Boerhaave, and Mantovani, according to whom the deafness of old age depended upon alterations of the middle ear; and those of Kramer and Bonnafont, who attributed this deafness to the diminution of the powers in general, and consequently that of the hearing.

In old persons there might be observed a slight or complete deafness. In the latter case it was more frequently due to an affection of the nervous terminal apparatus or else to a lesion of the labyrinth, more rarely to a lesion of the trunk of the acoustic nerve, of the nuclei, or of the centre. The affections of the labyrinth were more frequent in old persons than in those of middle

age. The deafness of old persons from primary lesions of the acoustic nerve, in its labyrinthine terminations, was so rare that M. Ferreri, in his examination of the two hundred and one subjects, did not observe it once. Somewhat more frequent were the lesions of the acoustic nerve following the chronic affections of the middle ear.

With regard to the functional examination of the acoustic nerve, M. Ferreri came to the following conclusions: 1. In old persons the transmission of sound by the bones is accomplished preferably through the right ear. 2. Aerial transmission is preferably by the left ear. 3. Out of the two hundred and one subjects, twenty-one only had no lesions of the labyrinth. 4. The subjects seemed to hear the ticking of a watch better than a whisper. 5. In a given number of old persons the majority of them had healthy ears. 6. In men the left ear was more frequently diseased, and in women the right ear.

M. Ferreri concluded that the causes which determined this deafness in old persons were as follows: The accumulation of wax; hyperplastic otitis media; the remains of purulent otitis media; chronic purulent otitis media; and, rarely, lesions of the auditory nerve.

**The Effects of Bicycle Riding on the Perinæum.**—In the *Gazette hebdomadaire de médecine et de chirurgie* for December 6th there is a long and interesting article on this subject by M. E. Aldhuy in which the author deals with the lesions of the perinæum produced by the bicycle saddle, the action on the urethra and on the *bas fond* of the bladder, the action on the external genital organs, and acute traumatism of the perinæum and their ætiology. He draws the following conclusions: 1. The injuries produced by the bicycle to the perinæum are of a grave and various nature. 2. Certain lesions of the perinæum have been observed, such as cutaneous erythema, abscesses, hæmatoma, etc., and finally, a more or less profound anæsthesia caused by repeated pressure. 3. There have been observed also certain functional troubles, such as the retention of urine often seen in men and undue frequency of urination in women. 4. The existence of urethritis from pressure of the saddle is not demonstrated, but it is certain that chronic inflammation of the canal and certain inflammatory complications, such as urinary abscesses, etc., may be produced or aroused by the bicycle. 5. Sometimes the venous arrest due to the compression of the perinæum provokes erection, although this is rare; more frequently, on the contrary, the continual perineal massage of the saddle produces temporary impotence. 6. With regard to genital excitation in women, it has certainly been much exaggerated. The bicycle has not the inconveniences of the sewing-machine. 7. The majority of cases observed up to the present time have been due to a bad posture or to a defective saddle. 8. The real accidents to which bicyclists are exposed are traumatic in nature, and are produced by jolting over uneven roads, which throws the rider forward on to the end of the saddle; they are also caused by falling on the rear wheel or on the framework. These falls are not very serious; sometimes a slight tear of the urethra may be observed, but they are cured rapidly without the least complication. In a very curious case, to which the author refers in the beginning of his paper, a fall on the wheel caused an enormous hæmatoma of the perinæum and of the scrotum. The bloody tumor increased and the patient presented symptoms of internal hæmorrhage. M. Poncet, says the author, ascertained the integrity of the canal by means of a catheter. A very large incision was



made in the centre of the mass, which enabled him to discover a tear of the transverse artery of the perinæum. The hæmorrhage was arrested with a ligature. 10. More frequently, however, the urethra is involved, and sometimes completely ruptured. In this case all the complications which follow rupture of the canal may be observed. 11. As the section of the urethra is here ordinarily very distinct, suture of the two ends may be followed by union by first intention. M. Poncet obtained very remarkable results in a case in which, seven years after a complete rupture of the perineal urethra, the patient did not show the least symptoms of stricture.

**A New Pathology of Jaundice.**—A correspondent of the *Lancet* for December 5th says that according to the new theory of jaundice suggested by Dr. Pick, and described by him before the Vienna Medical Society, the cause of the disease is to be sought for in the liver, where the bile is formed, and consists in a disturbance of the function of the liver cells. These cells have the remarkable selective property of discharging bile into the bile capillaries only, while both urea and sugar pass into the blood. This function, however, may sometimes be disturbed, with the result that a part of the bile is discharged into the lymph capillaries. Dr. Pick has given the name of paracholia to this disturbance, which he considered may be caused either by abnormal irritation of the secretory nerves of the liver (nervous paracholia) or by toxic substances (toxic paracholia). The toxic substances may be either poisons introduced into the organism from without, or, on the other hand, they may be produced by bacteria, whether those of the intestine (paracholia by self-intoxication) or pathogenic microorganisms (paracholia by infection). The jaundice of bilious colic is an instance of nervous paracholia, the jaundice of the newborn infant is a case of paracholia by self-intoxication, as it is, in Dr. Pick's opinion, due to the influence of toxins generated in the intestines in consequence of the taking of food. Catarrhal jaundice is an example—and, in fact, the most remarkable one—of paracholia by infection; it may, therefore, be regarded as a zymotic disease of the intestine. In the discussion which followed, continues the writer, Professor Basch remarked that jaundice might arise from engorgement of the bile passages. Dr. Pal, while agreeing to some parts of Dr. Pick's theory, said that no secretory nerves had hitherto been found in the liver, whereas, according to Vulpian, irritation of the nerves passing from the celiac plexus to the liver caused a change in the color of the gland. Dr. Pal himself had proved that an effect might be produced on the liver vessels by the splanchnic nerves; the liver had only vasomotor nerves, not secretory nerves. Dr. Pick, in his reply, stated that the bile when secreted exerted a pressure equivalent to two hundred millimetres of water, and that, according to Heidenhain and other authors, the existence of secretory nerves in the liver was to be presumed.

**A New Treatment of Hip Disease by Arthrotomy, Scooping of the Head and Neck of the Femur, and Trans-trochanteric Drainage.**—The *Revue de chirurgie* for November 10th contains a report of the Congrès français de chirurgie, at which M. Delagenière stated that he had adopted the following technics: An incision similar to Langenbeck's was made, but extending farther down on the thigh, to about two centimetres below the base of the great trochanter. This incision should measure about fifteen centimetres. The fibres of the glutæus maximus

were separated in order to penetrate as far as the pelvic-trochanteric muscles; the pyramidalis and the glutæus medius were separated and an incision of the periosteum was made from the acetabulum as far as the base of the great trochanter; this included the internal and external surfaces of this bony prominence. The articular capsule was opened by a T-shaped incision in order to permit of exploration of the articulation. Afterward the periosteum on each side of the incision was detached in order to make the operation subperiosteal. The upper border of the great trochanter was excised as far as the upper border of the neck; with a gouge-forceps the neck was hollowed as far as the head; afterward the head was scooped and a portion of the articular cartilage was removed.

Finally, the treatment terminated in scooping of the great trochanter, which M. Delagenière followed to within a centimetre of its base in order to establish a regularly dependent passage following the direction of Merkel's spur. The soft parts were then united above the hollow passage, after a metallic tube had been laid in the bottom of the passage, the outer end of which was attached to the skin. This drain should be left in place until the patient recovered.

M. Delagenière stated that he had practised this operation twice in cases of very grave suppurating coxalgia, and the two patients had made a rapid recovery.

The conclusions to be drawn from these facts, he said, were the following: 1. The operation was simple and easy. 2. It did not seem to be of a serious nature. 3. Drainage of the diseased articulation and of the epiphysis was obtained definitively. 4. The hip preserved its shape and part of its movements.

M. Calot thought that coxalgia should be cured without lameness. Contrary to former opinions, this disease was scarcely ever fatal; it was not really serious except when secondary infections supervened. It was not correct to maintain that coxalgia which had been cured always left indelible traces in the shape of a very awkward lameness. At the present time the mobility of the limb might be preserved in a great majority of cases.

In order to obtain this result, it was necessary for the surgeon to keep his patients under daily observation from the first stage of the disease. The surgeon was responsible, he thought, for the bad attitudes that might be taken by the limb; they only were the cause of the lameness. M. Calot stated that a patient who was cured of coxalgia, with a shortening of two centimetres, and even stiffness of the hip, would eventually be able to walk without showing any pronounced lameness, if the muscles were strengthened by massage, and if he was taught to walk.

The great majority of patients who were cured were left with an insignificant shortening of the limb, with a scarcely noticeable atrophy, and preserved some movements of the articulation. M. Calot had even seen in two cases the entire restoration of the movements of the articulation, after suppuration of the articular cavity.

On the whole, against the grave defects of lameness, defective attitude, and iliac subluxation, we had a potent remedy in immobilization by means of plaster of Paris. Above all, resection should not be practised.

**Salol in the Treatment of Acute Angina in Children.**—In the *Journal des praticiens* for December 5th M. de la Carrière remarks that the internal employment of salol in angina has given excellent results, and that he has prescribed it in cases of amygdalitis, acute angina, and non-diphtheritic cases, whatever might be their



cause. It is a general antiseptic and analgetic with an elective action on the pharynx. It quiets the pain and the dysphagia almost immediately, it brings about a rapid relaxation in the physical symptoms, it prevents the formation of abscesses, and it always shortens the duration of the disease, especially if it is administered in the beginning.

The daily amount for an adult is sixty grains. For children the adjustment of the dose is easy, as salol is always well borne, for trouble with the kidneys, which is the only contraindication, is exceptional in them. The amounts to be taken daily are as follows: For children a year old, eight grains; for children two years old, fifteen grains; for children three years old, twenty-three grains; for children four years old, thirty grains; and for children eight years old, forty-five grains. This amount is sufficient until the age of fifteen, when it may be increased to sixty grains without inconvenience, if necessary.

With regard to the mode of administration, M. de la Carrière recommends the following formula:

R Salol .....	30 grains;
Sweet almond oil,	
Gum arabic .....	60 "
Syrup .....	450 "
Distilled water .....	2.5 ounces.

Peppermint, orange-flower water, vanilla, or cherry-laurel water may be added to make it aromatic.

This quantity is sufficient for three doses during the day. Salol may be given at mealtime, as it does not disturb the digestion.

The employment of this drug should be suspended if the urine appears of a dark color. This coloration, which indicates the transformation of the carbolic acid in the organism into hydroquinone and pyrocatechin, is not to be feared.

In pronounced inflammatory angina, especially when there is danger of abscess, M. de la Carrière pushes the doses until the organism is well under the influence of the drug and saturation is evident. Moreover, elimination occurs rapidly, and when the normal color of the urine returns it is rarely necessary to have to renew the dose, and recovery is assured.

It is preferable to give salol in a potion rather than in capsules, for the saliva rapidly decomposes it. Each time the patient takes the potion there are formed instantaneously in the mouth carbolic acid and salicylic acid, which have a direct topical effect on the diseased parts. This local antiseptic bath is all the more pronounced and, consequently, efficacious, the more intense the disease, for, when deglutition is very painful, the potion remains for a longer time in the mouth, and contact with the drug is more prolonged.

A good way also, says the author, is to incorporate the salol in chocolate pastilles. For persons predisposed to angina of any kind the use of these pastilles is especially recommended as a preventive. During the cold and damp season these pastilles seem to diminish the sensitiveness of the throat by combating, the author thinks, the latent microbism of the tonsils which are in a more or less chronic state of inflammation.

**The External Application of Pilocarpine in the Treatment of Nephritis, and its Diuretic Effect.**—The *Lyon médical* for December 6th contains a review of a work on this subject by M. Emile Julia, in which the writer says that this method of applying pilocarpine has been known for two or three years. In 1894, M. Mollière, who was the first to discover it, recommended it after

having experimented with the treatment in his service at the Hôtel-Dieu.

This treatment consists in friction of the entire dorso-lumbar region with an ointment composed of three ounces of white vaseline and from three quarters of a grain to a grain and a half of nitrate of pilocarpine. The region is afterward covered with a layer of cotton or waxed linen which is held in place with bands of turlatin. The frictions are made every morning and the covering remains on during the day unless it inconveniences the patient too much. This, however, is very rare.

More than eighty patients with acute nephritis from the effect of cold, or infectious nephritis, or chronic nephritis were subjected to this treatment. Complete recovery occurred in the first set, and a rapid and lasting disappearance of the acute symptoms in the second was invariably observed.

A remarkable symptom observed in the majority of the cases was an energetic diaphoresis, which remained excessive in a large number of cases while the treatment lasted.

The albumin often disappeared from the urine and always diminished in these patients. At the same time elimination was effected with remarkable intensity and the symptoms yielded with the greatest rapidity, the œdema disappeared, the dyspnoea gave place to normal respiration, and the minor symptoms very soon passed away.

Numerous experiments have demonstrated the specific properties of pilocarpine employed in this way, and the results obtained should not be imputed to the cutaneous excitation produced by the frictions or to the heat caused by the layers of cotton.

The importance of this treatment in clinics, says the writer, may be seen. It is applicable to an affection which very often baffles the physician; it is, furthermore, carried out with a medicament which favors elimination without injuring the stomach. He concludes, therefore, that pilocarpine may give remarkable results and prove a valuable remedy in cases of nephritis.

**Mydrol.**—This name has been given to an iodomethylate of phenylpyrazol, which is a white, odorless, bitter powder readily soluble in water. It seems from experiments made under the direction of Professor Albertoni, of Bologna (*Thérapeutique Wochenschrift*, December 6, 1896), that mydrol dilates the pupil in animals that have a round pupil, but has no such effect on those in which the pupil is oblong. Dr. Cattaneo, of Professor Tartuferi's clinic, is cited as having found that, by reason of the short duration of its mydriatic action, when employed in a solution of from five to ten per cent., and its transitory effect on the accommodation and especially on the tonicity of the eye, its diagnostic use is of advantage in cases in which there is reason to apprehend harm from the increase of intra-ocular pressure caused by other mydriatics. Albertoni adds that it is absolutely unirritating and non-poisonous, and that it excels cocaine in diminishing the amount of blood not only in the vessels of the conjunctiva, but also in those of the iris and most probably in those of the deeper structures. By virtue of these properties, while it has no actual anæsthetic action, it is serviceable in ciliary and supraciliary pain, blepharospasm, lachrymation, and many diseases of the iris, the cornea, the sclera, and the conjunctiva, especially that of the globe. Mydrol is said to be absorbed rapidly and to be eliminated unchanged in the urine.

# INDEX TO VOLUME LXIV.

	PAGE		PAGE		PAGE
Abortion, A New Method of treating Incom- plete.....	416	ARMY, CHANGES OF MEDICAL OFFICERS OF THE	341	Atresia of the Auditory Canal, The Hearing Power in Cases of Bilateral Congenital.....	658
Abortions, The Treatment of.....	384	Clodd, Marshall Morgan.....	334	Atrophy, Progressive Muscular, of Sudden On- set.....	428
Abrams, A. A Case of Facial Hemiatrophy.....	384	Darnall, Carl Roger.....	633	Atropine in the Treatment of Pharyngeal Diph- theria.....	488
Abrams, A. A Case of Gonorrheal Endocardi- tis.....	393	Davis, William B.....	54, 397, 421, 490, 525	Atude, J. Hydrozoone in Gastric and Intestinal Disorders.....	654
Abcesses, A Case of.....	430	De Shon, George D.....	525, 537	Aural Deformity, An Unusual Case of.....	329
Abcesses, Cerebral, etc.....	430	Ditcher, Basil Hicks.....	633		
Abcesses, The Treatment of Intracranial, fol- lowing Purulent Diseases of the Ear.....	638	Ebert, Rudolph G.....	424		
Academy of Medicine and Surgery, The Rich- mond.....	91, 122, 721, 786, 847	Even, Clarence.....	128, 271, 588		
Academy of Medicine, The Buffalo.....	91, 305, 397, 743, 497, 525, 551, 584, 617, 633, 721, 751, 815, 847	Faulstich, Powell C.....	458, 633		
Academy of Medicine, The New York.....	537, 629, 750, 826	Fisher, Henry C.....	301		
Academy of Medicine, The Orthopaedic Section of the New York.....	719	Forwood, William H.....	301		
Academy of Medicine's Semimonthly.....	815	Fuller, Leigh An-lin.....	633		
Academy Railway Surgeons, The American.....	375	Gardner, Charles M.....	301		
Aene, An Ointment for Pustular.....	555	Gardner, William H.....	558		
Acrocyanosis.....	576	Gray, William W.....	397, 424, 558		
Adams, J. M. Thrombosis of the Lateral Sinus.....	424, 434	Greenleaf, C. R.....	588		
Addison's Disease, Oophorectomy in.....	580	Hartsuff, Albert.....	751		
Address, Changes of.....	30, 54, 91, 301, 331, 365, 385, 424, 458, 487, 557, 588, 652, 680, 721, 751, 786, 847	Hoff, John Van R.....	484		
Adenitis of the Groin, The Abortive Treatment of Acute Suppurative, by Pressure Bandage.....	378	Houglinton, David L.....	537		
Adipogen.....	820	Kemp, Franklin Middleton.....	633		
Albumin, Testes.....	325, 425, 462	Kennedy, James N.....	515		
Albuminuria after Vaccination.....	210	Kiefer, Charles F.....	458, 588, 633		
Albuminuria, Mercuial.....	308	Kimball, James P.....	424		
Albuminuria, The Action of Hot-air Bath.....	638	Kirkpatrick, Thomas J., Jr.....	326, 438		
Albuminuria, The Influence of, on the Growth of Children.....	638	Knox, John A.....	424		
Alexander's Operation, A New Method of Fast- ening the Round Ligament.....	692	Kulp, John S.....	424		
Alloes, S. B. Heat, Vaso and Glare.....	485	La Garde, Louis A.....	307		
Aloes, Tincture of, in the Treatment of Varicose Ulcers.....	227	Lauderdale, John V.....	458, 721		
Ampolectomy of a Carcinomatous Breast during Labor, etc.....	649	McClaw, Walter D.....	421		
Amalgams, A Gargle for Follicular.....	629	McCreery, George.....	491		
Amalgamotomy by Caustic Dissection.....	692	McElderry, Henry.....	150, 301, 357		
Amoebiform.....	355	Moseley, Edward B.....	198		
Anemia caused by Tapeworm.....	330	Munday, Benjamin.....	633		
Anemia Spuria, The Sulphate in Surgical.....	230	Poinceter, J. Herson D.....	557		
Anesthesia, The Effect of, upon the Tempera- ture.....	131	Pury anne, William E.....	425		
Anesthesia, The Fiftieth Anniversary of the In- troductio.....	396	Rand, Irving W.....	301		
Anesthesia, The Semimonthly of.....	557	Reed, Walter.....	301		
Anatomy, A New Edition of Gray's.....	571	Reich, Frederick P.....	306		
Anatomy Livers <i>versus</i> Body-scutching.....	630	Richard, Charles.....	424		
Anatomy, Progress in.....	630	Richards, William Evans.....	633		
Aneurysm, Traumatic, treated by Ligation and Extirpation of Sac.....	215, 257	Robert, W. C.....	271, 459, 633		
Angina, Cavernous, of the Ear.....	658	Shaw, Henry A.....	633		
Angina Pectoris and Allied States, Lectures on 177, 210, 221, 243, 245, 249, 441, 560, 601, 765, 797	658	Skinner, George Alfred.....	633		
Anhalonium Lewinii, Effects of the Fluid Ex- tract of.....	130	Smart, Charles.....	271		
Anhalonium Lewinii (Mesocle Button), The Ac- cidentally.....	816	Smith, William Percy.....	458		
Ankles and Thighs, Treatment of Chronic Dis- eases of the.....	476, 273	Stone, John H.....	633		
Antiphilip, Professor of Klebs's.....	485	Straub, Paul F.....	633		
Antipyrine and Calomel.....	419	Sturges, John A.....	633		
Antipyrine and Calomel, The Incompatibility of.....	621, 722	Swift, Eugene L.....	751		
Antipyrine in the Treatment of Whooping cough.....	661	Tesson, Louis S.....	751		
Antiseptics, both Internal and External, The Clinical Value of.....	515	Town, Francis L.....	306		
Antitoxine, Liphtheria, sometimes found in the Blood of Horses that have not been Injected with Toxine.....	311	Ware, Isaac P.....	198		
Antivivisection Bill, The Congressional.....	20	Wilson, William H.....	271, 286		
Antivivisection Legislation.....	61	Woodhill, Alfred A.....	306		
Antism of Highmore, Methods of Dissection.....	519	Worthington, James C.....	128, 199		
Antism of Decades, Life, and their Treatment.....	519	Arnold, W. F. Letter to the Editor.....	159		
Aorta, A Congenital Chorda Tendinea in the.....	128	Ascare, The Treatment of, by Injections of Oxy- gen into the Peritoneum.....	176		
Aperta Water to Correct the Ulcupant Effects of Morphine.....	621	Association of Obstetricians and Gynecologists, The American.....	375		
Apert's, J.....	543, 722	Association of Railroad Surgeons, The New York State.....	306		
Appendicitis, Dr. Fowler's Work on.....	652	Association of Railway Surgeons, The New York State.....	633		
Appendicitis, Multiple Operations.....	33	Association, The Albany Medical College Alumni, of Greater New York.....	846		
Appendicitis, The Vomiting of.....	728	Association, The American Dermatological.....	306		
Appendicitis, to operate or not to operate.....	728	Association, The American Electro-therapeutic.....	405, 435		
Appendicitis, Why we should Operate Early in.....	449	Association, The American, for the Advance- ment of Science.....	375		
Appendix Vermiformis, A Possible Use of the.....	540	Association, The American, for the Study and Practice of Medicine.....	651		
Argon and Water, A Mixture of.....	89	Association, The American, of Obstetricians and Gynecologists.....	652		
Arthrology, A New Treatment of Hip Disease by.....	335	Association, The American Public Health.....	206		
ARMY, CHANGES OF MEDICAL OFFICERS OF THE	341	Association, The Canadian Medical.....	240		
Alexander, Charles T.....	51	Association, The French Surgical.....	53		
Appel, Aaron H.....	21, 397	Association, The Medical of Northern New York.....	568		
Appel, Daniel M.....	21, 397	Association, The Mississippi Valley Medical.....	20, 212, 271, 374		
Barber, Dallas.....	21, 301	Association, The National Sanitary.....	502		
Banister, John M.....	397	Association, The New York State Medical.....	292		
Brechenin, Louis.....	397	Association, The Northern Surgical and Gyneco- logical.....	504		
Brooke, Benjamin.....	371, 588, 751	ASSOCIATIONS, MEETINGS OF MEDICAL Soc SOCIETIES.....			
Bushnell, George E.....	198	Association, The American, for Shortening the Ocular Muscles in.....	618		
Carly, W. Fitzhugh.....	425	Asthma, The Treatment of, Apart from the At- tacks.....	297		
Clater, Peter J. A.....	198	Atlantic City, S. Letter to the Editor.....	526		
Clendenin, Paul.....	198	Atlantic City in the Autumn.....	744		







DEATHS OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES:	PAGE	DEATHS OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES:	PAGE	Effusions, Pleuritic, and their Treatment.....	724
Adams, M. Vinton.....	687	Random, Charles L.....	425	Einhorn, M. Experiment upon the Effects of Direct Electricitation of the Stomach.....	729
Aldrich, James M.....	786	Rank, Francis Huntington.....	651	Elbow, A Split for the.....	30
Allen, John A.....	786	Reynolds, J. W. B.....	811	Electricity in the Treatment of Vomiting.....	808
Artman, William Ellsworth.....	491	Rick idson, Benjamin Ward.....	732	Electrization of the Stomach, Experiments upon the Effects of Direct.....	692
Ayres, Willam C.....	687	Ring, F. W.....	459	Electro-diagnosis and Electro-therapeutics Simplified.....	779
Babe, Richard.....	425	Ross, William H.....	234	Electrolysis, Tattooing Effected by.....	332
Baker, John Dillard.....	425	Sabine, Gustavus A.....	816	Elliott, A. R. Albumin Testing.....	736
Benson, J. L.....	425	Sanford, Leonard J.....	732	Elliott, A. R. Letter to the Editor.....	462
Bergin, Darby.....	589	Sass, Louis.....	425	Emaciation, Injections of Local Lard in Cases of.....	132
Bernacki, Charles.....	425	Scott, Joseph T.....	821	Emmenagogue, Stramonium and.....	468
Bills, Morgan.....	163	Sears, J. W.....	271	Emphysema, Three Cases of Subcutaneous, in a family.....	828
Blanc, H. William.....	536	Shrader, William.....	366	Encephalitis, Acute Non-suppurative Hemorrhagic.....	201
Boatner, E. S.....	536	Shurly, Elizabeth.....	816	Encephalitis, Rapidly Fatal, Resembling Cerebral.....	490
Bragdon, Edmund.....	536	Smith, Andrew M.....	816	Encephalitis, A Case of Gonorrheal.....	783
Brown, James R.....	536	Stout, Henrietta.....	824	Endometritis, A Point in the Treatment of.....	754
Brown-Ségur, C. E.....	536	Stump, Norman Jarrett.....	192	Enophthalmia, Traumatic.....	402
Brownlee, J. D.....	366	Swift, Samuel.....	92	Enteroptosis, The Treatment of, with Teast.....	363
Burchard, Thomas H.....	687	Szabari, Elizabeth Hart.....	816	Euthanasia, A Simple Remedy for.....	512
Burgess, Thomas L.....	491	Taylor, George H.....	425	Eosinophilic Granulations, An Apparent Crystallization of.....	512
Callender, John H.....	334	Tennant, Clara Greene.....	816	Epilepsy, Eye Strain as a Cause of, and the Results of its Treatment.....	839
Chaffee, Calvin C.....	271	Trenor, Eustace.....	521	Epilepsy, Reflex.....	92, 99, 199
Choate, George C. Shattuck.....	21	Wallace, William A.....	429	Epilepsy, Strontium Bromide in.....	533
Cochrane, Jerome.....	201	Wells, Julia C.....	687	Epilepsy, The Collateral Theory of.....	518
Coleman, J. A. and Anderson.....	624	Wellington, William W.....	581	Epilepsy, The Pathology of.....	491
Collins, Frederick E.....	21	Whiston, Richard G.....	752	Epilepsy, The Surgical Treatment of Focal.....	361
Cortelyou, Lawrence V.....	234	Whitell, Philip.....	752	Epithelioma of the Soft Palate.....	361
Cutter, Ellen Bigelow.....	491	Wise, Mrs. G. W.....	752	Equilibrium, The Disturbances of, in Diseases of the Ear.....	638
Darby, Charles S.....	816	Woodruff, William H.....	416	Erdmann, J. F. Malignant Pustule of the Face.....	213
Davis, E. H.....	425	Woolf, Charles N.....	425	Erichsen, The Death of Professor John Eric.....	424
Dawson, John L.....	425	Worthington, James Chestn.....	271	Erythema, Erythema as a Remedy for.....	718
Day, Ashbury M.....	266	Wyman, Joseph Maybank.....	768	Erratum.....	397
Deane, Charles W.....	92	Declarations, The Legal Value of Dying.....	732	Eruption, A Peculiar, from Contact with Arterial Blood.....	731
Dunn, Richard L.....	92	Delet, The.....	300	Erysipelas, Camphor and Tannin in the Treatment of.....	327
Elliott, Mary A. Forbes.....	732	Degeneration, The Stigmata of.....	300	Erysipelas of the Face.....	324
Ellis, John.....	732	Delavan, D. B. Recent Advances in the Surgical Treatment of Malignant Disease of the.....	318, 332	Erysipelas, Pharyngeal.....	231
Ellisworth, Pinckney Webster.....	19	Delirium Tremens, The Treatment of, with Chloride of Ammonium.....	686	Erysipelas Serum in the Treatment of Carcinoma.....	600
Emerson, Vincent.....	266	Demopulization, Chemical.....	422	Erysipelas, The Complications and Treatment of.....	62
Farrington, Edward S.....	266	Diabetes.....	422	Erysipelas, The Treatment of, with Vaseline.....	596
Ferry, Alice.....	732	Diabetes, Uranium Nitrate in the Treatment of.....	470	Erysipelas, Pharyngeal.....	657
Fessenden, C. S. D.....	624	Diarrhea of Infants, Tannin in the Treatment of.....	238	Eucaine and Cocaine.....	245
Field, Jacob T.....	732	Diarrhea, The Copper-Arsenite Treatment of Infantile.....	845	Eucaine, The Physiological and Therapeutic Action of.....	371
Pitfield, W. C. B.....	450	Diarrhea, Infantile, and their Treatment.....	139	Eucalyptus as an Antidote to Stramonium.....	174
Flanagan, Andrew.....	536	Diphtheria, The Relation of Acute Diseases of the Nose and Throat to Disorders of.....	291	Eugenol as an Internal Antiseptic and Local Anesthetic.....	784
Gehlbach, Charles.....	526	Diphtheria, The Relation of Chronic Diseases of the Nose and Throat to Disorders of.....	356	Ewing, J. See Miller, P.....	141
Gerhard, Emanuel F.....	459	Diphtheria Antitoxine Collective Investigation of the American Pediatric Society's Second.....	504	Ewings, J. W. Myxodema of the.....	63
Gibbs, Theron Z.....	816	Diphtheria Antitoxine in Chicago.....	164	Extracts, The Usefulness of So-called Animal.....	754
Graham, James.....	361	Diphtheria, Atropine in the Treatment of Pharyngeal.....	488	Eye Case, An Old.....	493
Gray, Frederick C.....	479	Diphtheria, Citric Acid in the Treatment of.....	312	Eye, Hot and Cold Applications in the Treatment of.....	247
Hall, Ameha E.....	732	Diphtheria in Private Practice, The American Pediatric Society's Collective Investigation into the Use of Antitoxine in the Treatment of.....	24	Eyeball, The Wearing of Vels, and its Effects upon the.....	796
Hall, Vincent L.....	163	Diphtheria, The Local Treatment of, with Sodium Hypophosphite.....	718	Eyes, Ichthyol in Affections of the.....	429
Holmes, Horatio R.....	589	Diphtheria, The Rapid Bacteriological and Clinical Diagnosis of.....	147	Farber, J. H. Classification and Nomenclature of Diseases, particularly in Special Branches.....	594
Holstein, George.....	687	Diphtheria, The Rapid Bacteriological and Clinical Diagnosis of.....	147	Farlow, J. W. Myxodema of the Throat.....	421
Holycote, William Cooke.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Farrington, The Late Dr. Edward S.....	595
Hopkins, John Louis.....	361	Diphtheria, Proctanin in the Treatment of.....	328	Fee, Minnesota Coroner's.....	885
Hull, Ameha E.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Ferguson, F. C. A Penetrating Wound of the Skull and Brain.....	360
Hunt, Vincent L.....	163	Diphtheria, Proctanin in the Treatment of.....	328	Ferrosystein.....	65
James, Joseph S.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fessenden, The Late Surgeon, of the Marine Hospital Service.....	198
James, Selden W.....	816	Diphtheria, Proctanin in the Treatment of.....	328	Fever, Sodium Bisulphate in the Treatment of.....	776
Kilbre, Payne.....	311	Diphtheria, Proctanin in the Treatment of.....	328	Fever, The Continued, of Jerusalem.....	784
Lamberton, P. S.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Fever, The Treatment of Pernicious Malarial.....	105
Langan, John T.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Fibroid Tumor, A Nasopharyngeal.....	383
Lenke, H. B.....	218	Diphtheria, Proctanin in the Treatment of.....	328	Fibroids of the Uterus.....	192
Letcher, Joseph S.....	736	Diphtheria, Proctanin in the Treatment of.....	328	Fibroids of the Uterus, Passages or Sinuses which.....	456
Livzey, Abraham.....	425	Diphtheria, Proctanin in the Treatment of.....	328	Fibroids of the Uterus, Passages or Sinuses which.....	456
Lockwood, B. M. and.....	425	Diphtheria, Proctanin in the Treatment of.....	328	Fibromatoma, The Treatment of Intra-abdominal and Retro-peritoneal.....	401
Lyons, John J.....	654	Diphtheria, Proctanin in the Treatment of.....	328	Fissure of the Anal.....	704
Mackenzie, A. C.....	321	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Mackey, Argyle.....	736	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Radical Cure for Urethral.....	69
Manning, Frederick Arnold.....	816	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Martin, George W.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Matheson, J. Anna.....	425	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Mathew, William H.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Matthews, Robert F.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McClure, John Russell.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McClure, Lewis.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McClure, Duncan.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McClure, William M.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McLane, Charles.....	425	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
McNiff, Sylvanus S.....	388	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Nesper, Samuel.....	92	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Nimocks, T. B.....	752	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Nott, Henry J.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
O'Brien, Francis J.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Oliver, Jessie A.....	687	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
O'Sullivan, George B.....	521	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Otterson, Josephine C.....	193	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Pagner, Warren W.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Pardee, E. H.....	521	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Parker, Edward Hazen.....	654	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Patterson, Henry M.....	589	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Peacock, Beatrice S.....	820	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Peoples, R. W.....	92	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Potter, Adaline L.....	732	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Potter, Franklin W.....	199	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Proutland, Herman.....	558	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681
Pringle, Charles Edward.....	234	Diphtheria, Proctanin in the Treatment of.....	328	Fistula, Cocaine in the Treatment of Salivary.....	681





LEADING ARTICLES :	PAGE	PAGE	PAGE	PAGE	
Fistula, The Bilharzia Hematobia as a Cause of Urthral	586	Marine-Hospital Service, CHANGES OF MEDICAL OFFICERS OF THE :	398, 558	MARRIAGES OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES :	
Gonorrhea, The Janet Abortive Treatment of	556	Carrington, P. M.	398, 558	McArthur, Robert Archibald	722
Incontinence, The Question of the Commitment to	320	Carver, H. R.	199, 425, 558	Maher, James J.	538
Leprosy, The Serum Treatment of	329	Cobb, J. G. O.	398, 425, 558, 786	Mason, J. Joseph	538
Malpractice Trial, Commendable Testimony in	369	Cunningham, H. S.	398, 425, 558, 786	Mead, Edward L.	104
Marriages of Consanguinity	90	Decker, C. E.	199	Murphy, Parker H.	684
Medical Knowledge, Restricting the Dissemination of	845	Eager, J. M.	425	Nell, David	194
Medical Men as Contributors to General Literature	749	Fessenden, C. S.	199	Nishimura, Imazu	538
Ozama and Botanical Excursion to	650	Gardner, C. H.	21, 786	Norris, Elmer P.	759
Parasitic and Syphilitic	621	Gassaway, G. M.	397	Olcott, Charles A.	432
Noises, The Plague of City	657	Goldings, H. D.	167, 391, 398, 491, 558	Padgett, E. J.	739
Ozama and Chronic Purulent Otitis, The Use of Diptheria Serum in	391	Glenan, A. H.	653	Payne, John Bosworth	199
Parturition, The Resumption of Work after a	137	Godfrey, John	199, 397	Peterson, John	54
Pasture Institute, A Complaint against the	514	Greene, Joseph B.	167, 391, 398, 491, 558	Pfeister, Carl	301
Patient's Secret, The	320	Gutterman, M.	397, 653	Pfeister, Carl	54
Pavement, The Wooden, from a Sanitary Point of View	305	Hamilton, John E.	397, 653	Pole, Louis Eben	199
Physician, A Great, of the Seventeenth Century	219	Hutton, W. H. H.	391	Potter, Fanny Maud	623
Potassium Iodide in the Treatment of Gallstone Colic	107	Irvine, Fairfax	491, 558	Price, Manse	786
Potato Poisoning	127	Jordan, W. M.	397, 653	Raymond, J. M.	538
Rodent, Hygienic and Pathogenic Properties attributed to the	289	Kaloch, P. C.	558	Raymond, Mammie Gardiner	687
School, The Army Medical	622	Kinyoun, J. J.	558	Reinhart, Helen	687
Silver as a Therapeutic Agent	685	Magnader, G. M.	653	Ritter, Caleb Anderson	786
Syphilis, The Antitoxic Report of the American Pediatric	17	Mintner, W. P.	21, 753, 786	Robinson, Southwell S.	687
Substitution by Apothecaries, The Offense of Syphilis and Carcinoma, The Serum Treatment of	749	Norman, Seaton	491, 558, 786	Rose, Lewis	538
Syphilis, The Serum Treatment of	423	Nydvager, J. A.	163, 653, 751, 786	Rose, Lewis	538
Thyroid Treatment, The, of Stunted Growth	165	Peckham, C. T.	163, 199, 653	Saunders, William	654
Thyroid, The, and the Genital Apparatus in Women	786	Perry, G. C.	21	Satter, P. M.	786
Thyroidism	718	Pettus, W. J.	653	Saulter, Emile	786
Truism, Cohabitation, in Women	18	Prochazka, Emil	199, 425, 653	Scovill, William Thomas	654
Tuberculous Disease, The Treatment of, with Maragliano's Serum	685	Purviance, George	163, 397, 558, 786	Sever, J. Edwin	654
Tumors, The Toxic Treatment of Malignant	351	Sawelle, H. W.	391, 653, 786	Simmons, R. O.	538
Typhoid Fever, Extensive Inoculation against Vaccination, Extensive Accidental	625	Sprague, E. K.	163, 653, 786	Sims, W. J.	752
Lead poisoning, Seropurulent Maxillary Sinusitis in Chronic	222	Stewart, W. J. S.	163, 199, 491, 751, 786	Stanton, William Holmes	538
Legislation, The Proposed Antivaccination for the District of Columbia	557	Stimpson, W. G.	163, 199, 653, 751, 786	Stearns, Joseph W.	538
Lenses, New Perimetric	401	Strong, G. G.	21	Stirling, Louis Grey	786
Leprosy, A Conference on	715	Thomas, A. R.	558	Taylor, William G.	21
Leprosy, A Conference on	715	Vaughan, A. T.	163, 398, 491, 558	Thompson, Charles Alston	653
Leprosy, A Conference on	715	Wassil, Eugene	558	Thorne, Harry	428
Leprosy, A Conference on	715	Wentmiller, C. P.	491, 558, 653	Traver, A. W. A.	624
Leprosy, A Conference on	715	Wheeler, W. A.	207, 558, 653	Walker, Harry Lewis	687
Leprosy, A Conference on	715	White, J. H.	163, 398, 491, 558	Wallis, Helen Gertrude	786
Leprosy, A Conference on	715	Woodward, R. M.	163, 398, 491, 558, 653, 751, 786	Watkins, T. H.	687
Leprosy, A Conference on	715	Young, G. B.	491, 558, 653, 751, 786	Wetmore, J. C.	538
Leprosy, A Conference on	715	Marine-Hospital Service, The	398	Whitfield, Arthur	538
Leprosy, A Conference on	715	MARRIAGES OF PHYSICIANS, OR MEMBERS OF THEIR FAMILIES :	398	Wiggin, Hope	687
Leprosy, A Conference on	715	Aldrich, R. H.	199	Wight, Jarvis S., Jr.	492
Leprosy, A Conference on	715	Anderson, Kitty	492	Wright, J. C.	492
Leprosy, A Conference on	715	Armstrong, Randolph	492	Martin, The Death of Professor H. Newell	653
Leprosy, A Conference on	715	Baldwin, Benjamin J.	653	Massachusetts, Board Examinations in	221
Leprosy, A Conference on	715	Baldwin, Edward Hill	653	Massage, On the Treatment of Scabies by	653
Leprosy, A Conference on	715	Barlow, Charles W.	653	Mastoiditis, Performance of the	653
Leprosy, A Conference on	715	Bischof, Henry	398	Mastoid Region, Certain Anomalies in the	653
Leprosy, A Conference on	715	Bassell, William Grosvenor	398	Mastoid, Trephining the	653
Leprosy, A Conference on	715	Blumer, William	398	Mastoiditis, with Seropurulent Sinusitis	653
Leprosy, A Conference on	715	Bullock, Earl Sprague	398	Mastoiditis, The Source of Elic Acid in the Organism	653
Leprosy, A Conference on	715	Butler, W. F. P.	398	Martinez, E. Two Interesting Nasal Cases	488
Leprosy, A Conference on	715	Cabot, Follen	398	McCarthy, C. The Diagnosis and Treatment of Cerebral Meningeal Hemorrhage	653
Leprosy, A Conference on	715	Carrington, P. M.	398	McCassidy, J. H. Motor Paralysis of the Larynx	420
Leprosy, A Conference on	715	Carrington, P. M.	398	McClanahan, A. C. Physiology of the Sexual System	420
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M.	624
Leprosy, A Conference on	715	Carrington, P. M.	398	McLeary, L. The Late William M	





Quartern Fever, The Serum Treatment of.....	566	Sepsis of the New-born.....	625	Standard, The. Mashed.....	194
Quimby, C. E. Pneumothorax in Pulmonary Hemorrhage.....	154	Septicemia, The Use of Antistreptococcus Serum in a Case of Acute Hemorrhagic.....	566	These Following T. Amniotic Contract.....	433
Quinn, A. Whooping-cough, The Rectal Administration of.....	573	Serum, Antileptospira.....	306	Shaw, John. The Case of Very Large Myopia.....	359
Quinine, Jaundice and Hematuria due to.....	32	Serum, Antistreptococcus, in the Treatment of Puerperal Fever.....	565	Stomach, The Pylorus, A Case of Congenital Hypertrophy and.....	674
Rabies, Canine, in India.....	485	Serum, Artificial, for Washing out the Serous Cavities.....	501	Strach, The Case of Bess, Wasp, and Hornet.....	45
Rabies, Newspaper.....	818	Serum Diagnosis by Means of Dried Blood Samples in Experimental Cholera.....	503	Stoker, G. The Treatment of Diseases of the Stomach, Esophagus and Intestines.....	779
Rankin, D. N. A Case of Gunshot Wound of the Throat.....	370	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Stomach, Glycerin in Certain Affections of the.....	136
Ranney, A. L. Eye Strain as a Cause of Epilepsy and the Results of Eye Treatment.....	839	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Stomach, The Treatment of.....	298
Ranney, A. L. Letter to the Editor.....	92	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Strabismus.....	413
Rattlesnake Bite, with Recovery, etc.....	762	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Strait, H. S. (Unpublished Article).....	414
Ray, J. M. Observations upon Eye Diseases and Blindness in the Colored Race.....	89	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Stricture of the Urethra, The Treatment of Impermable.....	122
Reilly, F. W. Letter to the Editor.....	242	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Stricture, Endoproctomy with Transplantation for Urethral.....	131
Reputation, A.....	163	Serum, Antileptospira, Typhoid Fever, On the Application of the.....	507	Strontium Bromide in Epilepsy.....	533
Retractor, A New Mastoid.....	528	Sexual System, Physiology of the.....	137	Strontium Lactate in Bright's Disease.....	731
Rheumatism of Hysterical Origin stimulating Pott's Disease.....	242	Shaffer, N. M. The Present Needs and Future Demands of Orthopedic Surgery.....	708	Strophilates, The Preparations.....	48
Rheumatism treated by the Local Dry Hot Air Method.....	792	Shields, C. M. Letter to the Editor.....	307	Stychnine, Eucalyptus as an Antidote to.....	48
Rhinitis as a Factor in Pterygium, Ophthalmia, with its Therapeutic Consequences.....	791	Shields, M. J. A Case of Laparotomy with the Removal of the Spleen for Infection.....	865	Stychnine, The Action of in Chloroform Colapse.....	176
Rhinitis, The Treatment of Atrophic.....	287	Shively, H. A Case of Inoperable Sarcoma of the Neck, etc.....	774	Stuart, A. M. A New Method of treating Incompletely Absorbed.....	416
Rice, C. E. The Cause of Traumatic Inflammation of So-called "Catarrhal Laryngitis".....	467	Simpson, W. K. The Sequelae of Syphilis of the Larynx.....	301	Sublateral, Vigorous Action against.....	101
Richardson, D. A. The Action of Anhalonium Levion (Mescaline Button).....	161	Simmons, Seropurulent Malignancy, in Chronic Lead-poisoning.....	222	Suppurative, Vigorous Action against.....	101
Richardson, The Death of Sir Benjamin Ward, of London.....	721	Skinner, C. E. The Practical Treatment of Typhoid Fever, etc.....	540	Summers, T. O. Animal Therapy.....	763
Rickets, Phosphorus in the Treatment of.....	139	Skinner, W. W. Cerebral Fever.....	776	Suppositories, Vaginal.....	594
Rigors in Children.....	65	Smallpox, The Prevention of Pitting from.....	355	Suppuration of the Tympanic Cavity, Antiseptic Treatment of Simple Chronic.....	657
Rogers, The Late Dr. Walter.....	752	Smith, E. D. A Rare Case of Tinea Versicolor.....	593	Surgery, Cases of Renal.....	462
Robinson W. J. Letter to the Editor.....	865	Smith, E. D. Letter to the Editor.....	164	Surgery, The Practical Use of Koenig's Discovery as applied to.....	592
Robinson, W. J. The Remarkable Action of Ichthyol-Glycerin on a Severe, apparently Simple, Case of Lymphogranuloma Phylloides.....	619	Snake-bite, The Treatment of, by Calcium Chloride.....	456	Surgery, The Present Needs and Future Demands of Orthopedic.....	708
Roe, J. O. Etiology of Deviations, Spurs, and Ridges of the Nasal Septum.....	477, 493	Snake-bite treated by Antivenene Serum, with Recovery.....	794	Surgery, Traumatism in.....	535
Rogers, Hemorrhage, The Heart under.....	700	Snare, A Modified Nasal.....	730	Surgical Cases in Dr Keeler's Clinic.....	612
Rogers, The Late Dr. Walter.....	752	Society, The American Laryngological, Rhinological, and Otolaryngological.....	304, 332, 367, 427, 464, 493, 558	Surgical Cases, The Importance of a Thorough History in.....	104
Rose, A. Letter to the Editor.....	352	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Surgical Progress, The Relationship of Diagnosis to the Future.....	726
Rosen, B. S. Letter to the Editor.....	688	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Susceptibility and Immunity, with Special Reference to Surgical Cases.....	134
Rust, E. G. A New Trachoma Forceps.....	339	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Swain, H. L. Acute Disease of the Lingual Tonsil.....	111
Salicilic Acid in the Treatment of Papilloma of the Skin.....	650	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Sweating, Excessive, of the Feet.....	108
Saline Injections, Subcutaneous and Intravenous.....	496	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Symptomata, Peculiar, of Sympathetic Disturbances.....	676
Saline Solution, Large Injections of, in Hemorrhoids and Internal Hemorrhoids.....	568	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Clinical and Pathological Notes on.....	234
Salo in the Treatment of Acute Angina in Children.....	855	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Clinical and Pathological Notes on.....	234
Salophene in Chorea, The Use of.....	214	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Case of Cerebral.....	234
Salvarsan, The Pathology and Treatment of Suppurative.....	725	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Hamel Hydrargyrioides in the Treatment of Acute.....	748
Salts, Are Copper, Dangerous?.....	308	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis in the Pharynx, The Sequelae of and their Treatment.....	418
Salva Officialis, The Medicinal Value of.....	813	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis of the Larynx, The Sequelae of, and their Treatment.....	418
Samuel, The Late Dr. William.....	752	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Post-conceptional.....	166
Sanford, A New Substitute for Iodoform.....	228	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, Sodium Nitrite in the Treatment of.....	732
Santonium, A New, in Ontario.....	138	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, The Sequelae and their Treatment.....	379
Santonium, The Aiken Cottage.....	785	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Syphilis, The Sequelae and their Treatment.....	379
Sarcoma of the Nasal Chambers and Accessory Sinuses.....	110	Association, American, of Genito-urinary Surgeons.....	190, 163, 234	Szvajkari, A. Letter to the Editor.....	200
Sarcoma of the Neck, A Case of Inoperable.....	774	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Sarcoma, Spindle-cell, of the Nasal Passage.....	43	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Savine in the Treatment of Vegetations of the Vulva.....	488	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scabies, Balsam of Peru in the Treatment of.....	63	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scabies, The Best Treatment of.....	828	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scalds, Picric Acid in the Treatment of Superficial Burns and.....	503	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scarlatina, Antileptospiric Serum in the Treatment of Malignant.....	394	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scarlatina, Slow Pulse with Papillary Inequality.....	308	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Scarlatina, The Serum Treatment of.....	405	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Schappis, J. C. Some Apparatus for the Treatment of Pott's Disease.....	141	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Schneider, W. H. Keloid Tumors of the External Ear.....	510	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
School and Hospital, The Fifteenth Annual Announcement of the New York Post-graduate School of Medicine.....	126	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Schwartz, F. C. Case of Congenital Hypertrophy and Stenosis of the Pylorus.....	674	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Schwitzer, F. Blood Diagnosis, and some of the most Important Advances in the Study of the Blood.....	116	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Sciatica, On the Treatment of, by Massage.....	783	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Sciatica, A Hawkbill Nasal.....	334	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Sciatica, The Medical of.....	434	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Section, Vaginal versus Abdominal, for Pus in the Pelvis.....	847	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Seller, C. The Prophylaxis of Nasal Catarrh.....	83	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Senator, A Medical.....	79	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Senecio as an Emmenagogue.....	188	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		
Sentiment, The Power of.....	341	Association, American, of Genito-urinary Surgeons.....	190, 163, 234		





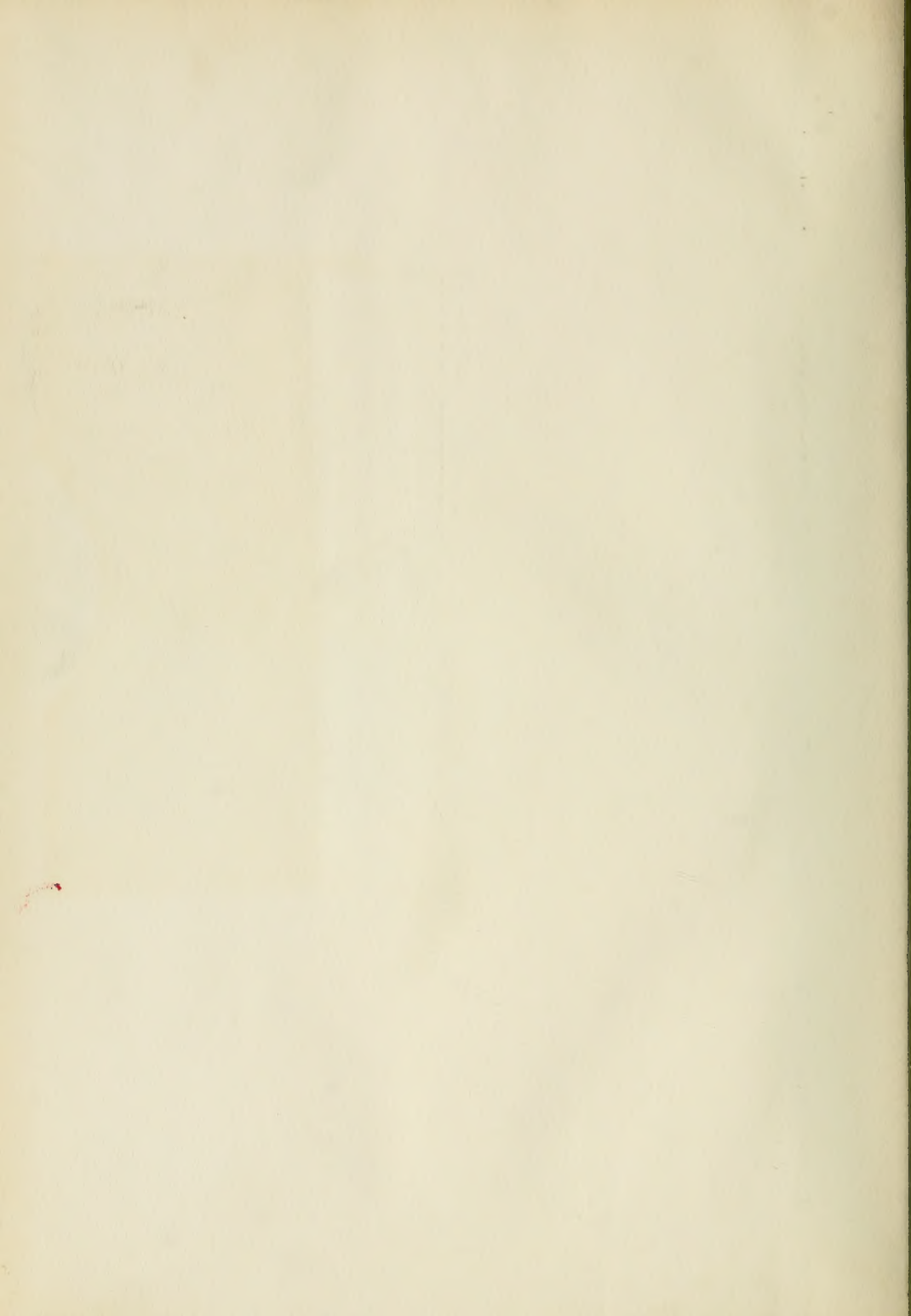












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